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FAILING TO DELIVER? EXPLAINING CLIMATE UNDERPERFORMANCE IN THE EU

Under which conditions do EU member states fail to perform on their climate mitigation ambitions? A Qualitative Comparative Analysis of the Climate Change Performance Index (CCPI)

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A Thesis submitted for the Joint Master Degree in
EU Trade & Climate Diplomacy (EUDIPLO)

Academic year
2021–2022

June 12, 2022

Word count: 19774

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Reviewer: Arnaud Leconte

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CCPI	Climate Change Performance Index
CEEC	Central and Eastern European Countries
COP	Conference of the Parties
EC	European Commission
EGD	European Green Deal
EPI	Environmental Performance Index
EP	European Parliament
EU	European Union
fsQCA	fuzzy-set Qualitative Comparative Analysis
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GNI	Gross National Income
GST	Global Stocktake
G8	Group of Eight
HDI	Human Development Index
NDC(s)	Nationally Determined Contribution(s)
PA	Paris Agreement
QCA	Qualitative Comparative Analysis
RoN	Relevance of Necessity
RWPP	Right-Wing Populist Party
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
WGI	Worldwide Governance Indicator

1. INTRODUCTION

Climate change represents one of the greatest global challenges humanity is facing. Its pervasive and devastating impacts will hardly leave any area of human life and interaction untouched – from security through economy and trade to health (IPCC 2022). Politicians around the world are aware of the urgent need to counter the accelerating pace of climate change. At the recent Stockholm 50+ Conference, held on 2 and 3 June, António Guterres, UN Secretary-General, again appealed to world leaders: "If we do not act now, we will not have a liveable planet." [1] The message is simple. Yet, despite the regularity of such appeals from politicians, influential individuals, and even corporations, the international community does not always do justice to the seriousness of the issue.

The Paris Agreement (PA), adopted in 2015, represents the latest attempt by the international community to tackle climate change, aiming to limit global temperature increases to well below 2°C or even 1.5°C. Unlike its predecessors, the agreement relies on the principle of self-determination with voluntary pledges. While it was hailed as a milestone as the first treaty in the history of climate diplomacy in which more than 190 states have agreed on a common approach, it is now clear that not all countries are living up to their pledges (Kammerer & Namhata 2018). Even in supposedly ambitious regions, such as the EU, there are glaring differences between countries.

In the past decades, the EU has attempted to establish itself as a leader in international climate negotiations and its external representation (Avrami 2018; Oberthür & Kelly 2008). Similarly, it has made significant progress in its internal climate policies by committing to overarching and ambitious strategies, such as the European Green Deal (EGD), which aims to make Europe the first climate-neutral continent by 2050. All of its member states implemented climate protection targets and corresponding legislative measures. At the same time, it is widely recognised that many member states are not on track to deliver on their targets (Lamb & Minx 2020). Although the member states' public promises to combat climate change do not differ much in their rhetoric, they strongly differ in their actual performance. While Sweden, for instance, performs comparatively high, certain other member states such as Slovenia severely lack behind their ambitions (CCPI 2021). Bearing in mind that according to recent estimates there are only about

[1] This quote has been cited on the United Nations Twitter profile (see here).

eleven years left to reduce emissions and prevent disastrous climate scenarios it is critical and urgent to better understand the nature of the ambition-performance gap, the conditions that lead to it and to inform policy debate at all relevant levels on how to close it (Gunfaus & Waisman 2021, p.1). In this thesis, I seek to identify national constraints that explain the stark variation in climate performance by adopting a comparative perspective. Consequently, I pose the question: Under which conditions do EU member states fail to act on their climate mitigation efforts?

While plenty of studies that have investigated causal relations between a country's performance and individual constraints, there is a lack of research conducting a systematic comparison of cases as configurations of all these conditions. I address this lacuna by giving existing research a new spin with the application of a Qualitative Comparative Analysis (QCA). Faced with the complexity of the subject matter, QCA possesses several inherent merits as a set-theoretic method. It allows tracing the combined effect of independent variables rather than concentrating on the direct and individual causality with each of them (Giumelli & van Roozendaal 2017). In doing so, the analysis sheds light on specific patterns of determinants that constrain a country's performance.

Moreover, most studies define underperformance either in terms of environmental policies (outputs) or concerning the level of greenhouse gas (GHG) emissions. This thesis adopts a broader perspective by using the Climate Change Performance Index (CCPI) as a proxy for insufficient performance as the outcome under investigation[2]. The index allows to assess the compatibility between states actual performance and their targets – as articulated in their Nationally Determined Contributions (NDCs) – by capturing both a country's policy behaviour and its emissions (Burck et al. 2021, p.5-7).

For this purpose, the remainder of this thesis proceeds as follows: I provide an overview of the development of international climate regimes and definitions of frequently used terms before continuing with a review of the existing empirical literature on those national determinants that are primarily highlighted as constraints to high climate performance. In the fourth section, I link these insights to the theoretical '3I'-framework which emphasises the concepts of interests, institutions, and ideas as drivers for policy change.

[2] In this thesis, the terms "underperformance" and "insufficient performance" are used interchangeably. They refer to the incompatibility of a country's performance with the "well-below-2°C pathway", and thus to its failure to perform on their climate mitigation ambition.

In the fifth chapter, I present the methodology and data used. The analysis that follows offers a snapshot of certain conditions that appear to be more relevant to the prospects for insufficient performance. In the penultimate section, I discuss the results and their explanatory power in light of the thesis' limitations. The last chapter concludes by outlining the thesis' contribution and making recommendations for future research on a country's climate performance as well as identifying specific policy implications for the EU.

2. BACKGROUND: THE PARIS AGREEMENT & EU CLIMATE POLICY

This chapter roughly traces the evolution and content of the PA, which currently drives the United Nations (UN) efforts for climate action on a global scale. It is central to this thesis since the assessment of underperformance is deduced from the pledges EU member states have made as signatories of the PA. The section further clarifies on the definition of commonly used terminologies and concludes by sketching the EU's role within the global and regional climate governance.

The international community has made great strides in addressing the issue of climate change since the early 1990s (Coen et al. 2020, p.1). The PA represents the third stage of the UN climate change regime which can generally be understood as intergovernmental negotiations among sovereign states. The first phase included the development of the United Nations Framework Convention on Climate Change (UNFCCC) during the 1992 Earth Summit, whereas the second stage between 1995 and 2004 involved the negotiation and implementation of the Kyoto Protocol and its legally binding emission reduction targets (Bodanksy 2016).

Once the Kyoto Protocol came into force, the question arose as to what the international climate regime would look like after the first commitment period until 2012. General disagreements and criticisms regarding aspects of the Protocol culminated in discussions dominated by disputes over mitigation burden, leading to a stalemate in negotiating targets (Falkner 2016; Held & Roger 2018). The inability to bridge differences became particularly evident during the UN Climate Change Conference in Copenhagen, also known as the 15th Conference of the Parties (COP15), convened in 2009. It was largely perceived as a failure because of the refusal of many developed countries to adopt

restrictive targets to limit emissions by 2020 and the insistence of developing countries on their right to develop their economies (Vidal 2010; Coen et al. 2020, p.19). As a result, the post-Copenhagen period saw changing dynamics and growing mobilisation of sub-state and non-state actors, and other informal intergovernmental organisations outside the UNFCCC, such as the Group of Eight (G8) or Twenty (G20). This led to a multi-layered landscape of climate governance spurred by a variety of actors (Jordan et al. 2015; Bäckstrand et al. 2017).

It was against this specific background that the PA was adopted at COP 21 in 2015. The agreement was widely considered a solution for this gridlock and a reinvigorated impetus for global climate governance. Scholars have posited that the agreement entrenches a "new logic" of global cooperation (Falkner 2016) which could provide "a model for effective global governance in the twenty-first century" (Slaughter 2015). It was marked by a major shift from a predominantly top-down governance architecture aimed at achieving agreements on GHG reduction targets at the global level to a more hybrid, decentralised framework primarily based on bottom-up national pledges (Iacobuta et al. 2018, p.2). Such voluntary commitments reduced the barrier to participation for parties that had previously been reluctant to top-down regulations. To this date, 197 parties have signed the Agreement, while 193 parties (including the EU) have ratified it (UNFCCC 2021).

The PA mirrors a global consensus that is more ambitious than its predecessor, with the overarching goal of limiting temperature rise to well below 2°C – and ideally 1.5°C – above pre-industrial levels (Art. 2.1(a)). Rather than setting mitigation targets through multilateral negotiations, it requires the signatories to identify their NDCs and scale up their ambitions over time. These NDCs are tabled individually by each party, rendering the agreement the first universal climate treaty. In contrast to the objectives in the Kyoto Protocol, however, the targets set out in NDCs are not legally binding (Coen et al. 2020, p.19). The PA builds on a collaborative approach to ambition raising in which compliance is substituted with transparency. This means that a 'global stocktake' (GST) is conducted every five years assessing collective progress toward long-term goals and scaling-up opportunities (Falkner 2016, p.1110–1111). Both Article 3 and Article 4.3, require parties "to undertake and communicate ambitious efforts", whereby "successive [NDCs] will represent a progression beyond the Party's then current nationally determined

contribution and reflect its highest possible ambition". By the same token, Article 4.11 permits Parties to modify their pledges at any time "to enhance its level of ambition". This succinct synopsis highlights that the notion of "ambition" represents a pivotal element of the PA and is directly linked to countries' NDCs. In this context, ambitions refer to the extent to which a country commits to act on climate change. It is thus employed to denote the willingness of a country to implement climate-related measures and is linked to targets and actions (Kreibrich 2018, p.1-2). Its outputs and outcomes can be ultimately seen as an expression of high (or low) performance. Climate performance, in turn, can be understood either as a result of policy output, e.g. in the form of legislation, or as the outcome of an (un)ambitious policy, such as actual emission levels or reductions (Avrami & Sprinz 2018).

In the end, the PA retains little control over increased ambition. Although it has been praised for its bold objective of limiting temperature rise to at least well below 2°C, as well as its oversight system, high participation rate, and the nuanced distinction between developed and developing states, its concrete outcomes are limited to the pledges made by the conferees themselves (Rajamani 2016). Although the parties are expected to report their adaptation and mitigation roadmap, there are no penalties for countries failing to achieve these plans (Held & Roger 2018). At the same time, many pledges are barely sufficient to limit temperature rise to 2°C (e.g. Du Robiou Pont et al. 2017). Additionally, there are no concrete plans on how to further limit the increase to 1.5°C (Kammerer & Namhata 2018, p.2).

Within this climate governance framework, the EU is widely perceived as a key player, eager to demonstrate its leadership by pushing for progress and ambitious targets in global climate negotiations (Delreux & Ohler 2019, p.11). The PA has been welcomed by the EU for delivering beyond expectations in terms of GHG reduction ambitions (e.g. Obergassel et al. 2016; Oberthür & Groen 2017). Under the agreement, EU member states have a joint NDC and were among the first parties to submit their goals and advocate for the integration of the ratchet-up mechanism for ambition over a five-year-cycle (Alloisio et al. 2020, p.2). These external ambitions cannot be separated from internal negotiations and debates. In many cases, breakthroughs in international climate diplomacy have sparked the endorsement of internal targets and more ambitious climate policies within the EU. In turn, the EU also seeks to externalize own policies and push them through in

these negotiations. In fact, the PA largely reflects the EU's internal policy objectives (Delreux & Ohler 2019, p.12). As part of the EGD, representing the Union's blueprint for pursuing climate neutrality by 2050, the European Commission (EC) announced plans to step up its ambition and updated its NDC mitigation target in December 2020, committing to reduce emissions by at least 55% by 2030 compared to the 1990 level (Schwarte 2021, p.157). It has arguably the most sophisticated and rigorous policy framework for dealing with climate change by international standards. Although the EGD itself is not legally binding, it comprises over 50 policy projects, including areas such as biodiversity, energy efficiency or climate-neutral mobility. It is further accompanied by legislative proposals, such as the European Climate Law, to safeguard that member states implement these projects swiftly (Dröge & Schrader 2021, p.2).

Ultimately, however, it is the member states that must implement and fulfill these measures for goals to be achieved. The legal-institutional framework places particular demands on EU coordination in terms of coherence and uniformity, as the area of climate policy falls under mixed competence (Oberthür & Dupont 2021, p.1103). This is further compounded by the cross-cutting nature of the climate issue which calls for the integration of climate policy into several other sectoral policies with divergent competencies between EU institutions and member states, such as trade (von Homeyer et al. 2021). While the use of the ordinary legislative procedure generally allows majority voting in the core area of climate policy, certain aspects (e.g. taxation) require unanimity. Moreover, the European Council, which usually decides based on unanimity, is increasingly integrated into decision-making in the area of climate policy (Dupont 2019; Oberthür & Dupont 2021, p.1103). The evolution of the environmental acquis has consistently challenged solidarity among the member states. Within the academic discourse, they have often been divided into environmental "leaders", pushing for more progressive policies, and the more hesitant "laggards" (Melidis & Russel 2020; Liefferink & Wurzel 2017; Wurzel 2021). Deep rifts and heterogeneity among member states in terms of climate policy ambitions, therefore, make consensus-building difficult and have also remained virulent after the PA (Burns 2020, p.77). This ambition gap between member states continues to be a challenge. Despite the concordant rhetoric surrounding the set of policy initiatives subsumed under EGD, actual performance dynamics vary across the EU. Although the EGD gives the appearance of increased ambition, "in reality

the pledges represent a business-as-usual approach" (Burns 2020, p.78-88), as their achievement often leads to package deals that can get even the least willing actors on board. In fact, the dichotomy of "leaders and laggards" still applies, albeit countries are subject to the same rules. While some countries outperform at the international level, the performances of others remain insufficient. The fact that several EU member states are currently not on track to meet their targets stresses the urgent task of better understanding the determinants that lead to underperformance to be able to inform political debate on how to close the ambition gap. The following literature review, therefore, seeks to shed light on certain drivers that are found to influence a country's performance.

3. LITERATURE REVIEW: EXPLAINING VARYING PERFORMANCE

This chapter briefly outlines the evolution of research on the interface between climate ambitions and performance. The main section compiles a summative account of those studies that have identified determinants influencing a country's performance. Due to the complexity of this issue, the following part draws from a variety of different strands of literature.[3]

Over the past decade, and particularly due to the PA, the importance of climate performance at the national level has become a cornerstone of academic attention (Jordan et al. 2015; Schmidt & Fleig 2018). As aforementioned, the agreement pursues a bottom-up approach which revolves around the principle of national self-determination (Kammerer & Namhata 2018). From a comparative political lens, a bottom-up perspective offers more accurate knowledge of domestic political, societal and economic factors that may lead to a country's underperformance (Purdon 2015, p.17). With the rise of national climate mitigation legislation and strategies, the literature attempting to explain patterns of domestic performance and variation has burgeoned in terms of substance and methodology (e.g. Bättig & Bernauer 2009; Bernauer & Böhmelt 2013; Lachapelle & Paterson 2013; Shearer et al. 2016; Tobin 2017; Ide 2020). Iacobuta et al. (2018) identify two main strands within this growing body of literature: the inquiry into domestic climate policy mechanisms, typically through comparing climate governance

[3] Although the thesis' focus is on EU member states, the review is not limited to studies examining performance on the European continent. Findings from studies in other countries are also taken into account since scholars commonly cross-refer each other's articles assuming identical operating forces.

through case studies (e.g. Bang et al. 2015), and one that focuses on tracking and explaining the evolution of climate policy through jurisdiction- and time-sensitive analysis (e.g. Dubash et al. 2013). This thesis falls primarily into the first area, examining climate policy outputs and its outcomes through domestic mechanisms at a particular point in time.

Due to the cross-cutting nature of climate change and its impact on many different domains, scholars have highlighted a range of different affecting variables that relate to the political system of a country, its income level, its civil society or affiliation with international organisations (e.g. Never & Betz 2014; Schmidt & Fleig 2018). To provide a lucid overview of this convoluted research field, the following paragraphs are sorted by those determinants most frequently cited as influencing a country's climate action – constraining or fostering performance.

When elaborating on a country's climate performance, the most focal point within the literature has been on the negative influence of certain energy sources in a country's energy mix, as a non-sustainable use already indicates high GHG-emissions (Kammerer & Namhata 2018). This is usually quantified by taking into account a country's dependence on fossil fuels, i.e., the share of coal, oil, and gas but also non-renewables, risky sources such as nuclear energy to generate electricity (Lachapelle & Paterson 2013). Countries that are more dependent on fossil fuels are predicted to focus on technology development as a form of mitigation policy, in part due to 'carbon lock-in' (e.g. Coen et al. 2020, p.66), vested interests and veto power of carbon-intensive industries.

Lamb & Minx (2020) identify different constraints that actively impede the progress of climate policy, among which fossil fuel dependency is found to be central. In their view, the transition away from fossil fuels has to be understood through the lens of power and conflict among stakeholders. Ambitious climate policy aiming to phase-out such energy sources can threaten the existence of standard operating procedures for multiple interest groups, who will mobilise enormous financial and political resources to prevent this (ibid., p.4). Reliance on non-renewables for energy production is thus identified as a key constraint, with the level of economic development taking a minor and more complex role. For example, Jahn (2021) shows that fossil fuel dependency alone explains about

80% of the variance of GHG emissions, while other variables, such as economic wealth do not have a significant impact in any of the models.

The case study on Russia by Golob et al. (2019) and a quantitative approach by Lachapelle & Paterson (2013) further illustrate that states reliant on these sources are less likely to implement any type of climate policy. Analysing the correlation between non-renewables and the adoption of domestic mitigation policies over the past two decades in 125 countries, Kammerer and Namhata (2018) demonstrate that countries with high per capita emissions, such as the oil-exporting and consuming countries of the Middle East, have far fewer incentives to cut their emissions since their economies are heavily dependent on these energy sources. In the same vein, Tørstad (2020) and Ide (2020) provide evidence that entrenched non-renewable interests through dependence hamper a country's climate performance. Although studies exist that conclude that revenues from these natural resources (as a share of GDP) are significantly positively related to climate policy ambition (van Coppenolle 2020), the plethora of scholars concurs that a high usage of these energy sources is a substantial factor influencing a country's climate policy performance.

Beyond energy-related factors, political actors have a strong influence on countries' climate policy performance, as they can stir the country towards (or away from) more sustainable ways of energy production and green policies in general. Thus, the influence of the party affiliation(s) of the government in charge has repeatedly been found to be a central benchmark for explaining variation (e.g. Dunlap et al. 2016; Neumayer 2003; Sewerin 2014). In fact, the incumbent party is in charge of organising legislature, setting a country's political agenda and making policy decisions based on the agenda to achieve corresponding results (Aldrich 1995).

Left-wing parties are found to be generally more inclined to address environmental issues and support policy adoption, which in turn could improve a country's performance (e.g. Neumayer 2003; Tobin 2017). Particularly, green parties' participation is found to impact environmental performance results in the corresponding states (Knill et al. 2010). Albeit frequently perceived as a "homogeneous family of parties with strong environmental policy positions" (Carter 2013, p.73), they are generally assigned to the broader category of left-wing parties owing to similar policy positions on other issues.

Considering governing parties' identities more generally, mainstream parties tend to adopt dismissive and accommodative strategies on the environment, with left-wing parties taking more ambitious positions than right-wing parties (Carter 2013). Likewise, Tobin (2017) finds that the presence of a leftist government is sufficient for ambitious climate policy. Furthermore, Jensen and Spoon (2011) analyse the progress of European countries toward the Kyoto Protocol' emission targets and find that parties matter for policy outcomes, showing that political parties in government do have a significant influence on a nation's policy progress, whereby left-wing governments are found to be more likely to support and commit to the implementation of policies that address environmental issues (ibid., p.111).

More recently, the upsurge of populist parties and their increased impact in parliaments across the EU during the past decade has led to increased research on their climate policy positions (e.g. Vihma et al. 2020; Huber et al. 2021) and the implications of their electoral success on such policies (Cetkovic & Hagemann 2020; Jahn 2021). Political parties rarely take positions against environmental protection. However, although parties do not oppose climate protection as such, right-wing populist parties (RWPP)[4] are found to disregard climate-related policies, emphasise environmental issues to a lower or less restrictive degree compared to their political opponents or rather prioritise material interests that counteract climate protection measures (Spoon et al. 2014, p.369; Tosun & Debus 2021, p.229). As a result, RWPPs are those often deemed to be "among the bad guys of climate policy and politics" (Selt & Kemmerzell 2021, p.1). Several empirical studies investigating RWPPs in Europe lend credence to this claim (Gemenis et al. 2012; Minkenberg 2017; Schaller & Carius 2019). Unlike left-wing and centrist populist parties, RWPPs in government are found to exert a prompt and significant impact on GHG emissions. Once a right-wing populist party comes to power, this effect materializes in less than a year (Jahn 2021). Similarly, qualitative contributions, such as Zuk and Szulecki's analysis (2020), indicate that the evolvement of renewable energy and the phase-out of coal is not merely technological and financial issues, but primarily an

[4] The conception of RWPPs in this thesis follows the conventional definition, according to which they represent a particular political ideology, combining right-wing politics and populist rhetoric and themes. They use a rhetoric based on anti-elitist sentiments, opposition to the 'corrupt' and 'spoiled' establishment, and speaking to or for the "common people". Moreover, they typically moves beyond the People-Elite dichotomy to include nativism (a particular exclusionary form of nationalism) and authoritarian attitude as two additional tenets. For more details see Mudde (2007) and Zuk & Szulecki (2020).

ideological and political one. Apart from the vast majority of studies emphasising the influential role of RWPPs in hampering a country's climate policy performance, the study by Tosun and Debus (2021) on the support of the Austrian Freedom Party for a glyphosate ban shows, it may also happen that certain measures correspond with the interests of RWPPs. Additionally, Selk & Kemmerzell (2012) criticize the simplistic 'climate bad guy' thesis, analysing climate politics of Germany, Austria and Poland.

Although scholarship about the impact of RWP-parties has advanced remarkably over the last decade, its link to actual climate policy outcomes, albeit mostly pointing in one direction, remains under-researched (e.g. Biard et al. 2019). Despite evidence for a strong influence, it comes without saying that policies do not evolve in a governmental vacuum, isolated from external factors. As outlined by Lachapelle and Paterson (2013, p.555) political variables taken by themselves only have limited explanatory power for the analysis of the quality of a country's climate performance.

In addition to the role of ruling political parties, research garners traction on a state's institutional design as a fundamental ingredient for effective governance and corresponding performance. It is often a matter of bureaucratic autonomy and legal means, access to resources that a state has or control over corruption that have implications for the speed of actions and the level of ambition (e.g. Hsu et al. 2020; Meckling & Nahm 2018). Correspondingly, this feature is also often point of departure for domestic climate change research (Purdon 2015, p.12).

One of the first contributions in this field is a study of "Green States" by Eckersley (2004), who examines the multi-layered elements that contribute to good environmental governance. His study is complemented by Gough's (2016) later comparison of welfare and environmental countries. Similarly, Steinberg and VanDeveer (2012) and Bailey and Compston (2012) set further groundwork by identifying institutional conditions that shape environmental policy, with the latter paying specific attention to climate performance in industrialising states. Christoff and Eckersley (2011) draw comparisons between the emissions and climate policies of several countries, thereby providing a range of politico-institutional explanations for diverging performance. A bureaucratic policy design, for example, enables effective policies, because potential distributive conflicts are shifted to autonomous bureaucracies (Meckling & Nahm 2018). It is also observed that

low levels of corruption control correlate with a lack of ambitious environmental policies (van Coppenolle 2020). Beyond that, research by Jacob and Volkery (2006) shows that there is a clear link between national governmental effectiveness and climate policy performance. A study by Savoia and Sen (2015) re-emphasises that government ineffectiveness correlates with a lack of capacity to deliver public goods. Countries with high government effectiveness can properly implement policies, react quickly and address problems or exploit new opportunities or, for instance, requirements raised by the EU policy regime. While high government effectiveness has a benign effect on climate policy when accompanied by an environmentally sympathetic parties, this effect seems to be reversed for RWP-parties.

While a country's energy sources have been shown to affect its climate performance, on a political level, it is the party affiliation of the incumbent government and the institutional framework it is embedded in that have significant effects. Yet, those variables can still be negated by several factors. One more complex and less clear factor is economic prosperity, as studies come to contradictory results regarding the direction of the influence (e.g. Liefferink et al. 2009). Madden (2014) contends that GDP per capita as a proxy for economic prosperity has a slightly negative relationship with the adoption of major climate policies. This is supported by studies examining the positions of countries in climate negotiations, whereby poorer states have pledged more ambitious climate policies on average than richer countries (Tørstad 2020; Lamb & Minx 2020). Here, particularly those countries characterized by a prosperous economy were found to correlate with an insufficient climate performance. While these studies mostly focus on climate policy as the output, Lachapelle and Paterson (2013) explore GHG emissions as its outcome. According to their analysis, this negative effect is ultimately reflected in significant growths in CO_2 emissions in the respective countries. They also hint at the interconnections between different conditions, showing that fossil fuel rents – if they account for a sizeable part of the GDP – can influence a government's policy behaviour (ibid., 549).

In contrast to the previous findings, Bättig and Bernauer (2009) posit that economic wealth does not have a significant impact on policy output. Jänicke (2005) even claims that the most important feature of environmentally friendly states lies in their high level of economic development. Ide (2020) finds that economic recession and a low level of

economic development are strong predictors of insufficient climate action. Furthermore, Wendling et al. (2020) demonstrate that a good environmental performance is linked to prosperity. Economic prosperity is assumed to enable countries to invest in ambitious programs that eventually allow for high performance. Put differently, bureaucracies in wealthier states can allocate more financial resources to policy formulation and implementation (Lamb & Minx 2020). In line with this, Tobin (2017) finds that climate policy adoption behaviour is positively correlated with economic wealth in the form of high income in developed countries, especially when a left-wing government is in place.

Eventually, economic prosperity can be both "a driver of high emissions as well as a harbinger of potential solutions that lead to lower emissions" (Avrami 2018, p.13). This ambiguity may result from the trade-off that while wealthier countries may have greater financial capacity to bear the costs, they also tend to have larger abatement costs to shy away from (Tørstad 2020, p.3). Irrespective of the direction of its impact, the quintessence is that economic development indeed influences a country's climate performance.

Another common line of explanation puts the spotlight on public perceptions of climate change. As ambitious climate policy requires public support, studies have investigated if the presence or absence of public demand for climate change mitigation can explain variation in domestic climate policies (Lamb & Minx, p.4). Indeed, previous work has shown that public beliefs about climate change the behaviour of policymakers and the adoption of green policies (Agnone 2007; Anderson 2011). More generally, Shum (2009) provides evidence that depending on whether climate change is perceived as an important issue by the public, policy outcomes and observed environmental quality vary, too. Findings from the U.S. indicate that the greater the concern of their constituents about climate change, the likelier representatives are to pursue ambitious climate policies (Johnson et al. 2010; Vandeweerdt 2016). Cross-country regressions of carbon prices and the passage of climate legislation also emphasised the importance of public attitudes on the issue of climate change as an influential determinant (Levi et al. 2020). Nations with stronger pro-environmental attitudes tend to have a larger array of pro-environmental policies, especially if the population is willing to incur economic sacrifices in support of the environment. That is, the public's willingness to pay more for environmental quality is positively associated with measures of climate-related policies in the form of fewer government subsidies for harmful energy sources and environmental governance,

whereas low public support is found to have negative impacts on domestic climate policies and thus performance (Weaver 2008, p.122).

Several scholars have pinpointed the lack of public awareness and support as a major constrain to the transition to a low-carbon economy in various meta-analyses (Geels 2013; Wiseman et al.2013). Following these findings, Anderson et al. (2017) show that European governments are responding to shifts in public opinion in favour of more climate protection by introducing such measures. Schaffer et al. (2021) show that policymakers are responsive to issue salience among their nation's population. Finally, Bakaki et al. (2020) confirm that policy outcomes are partly driven by public opinion, while public interest in the environment also influences media coverage.

Overall, it becomes clear that the respective research is extremely diverse and implies mixed findings. Many strands of political-economic literature exist on climate change mitigation and national performance. The studies presented above are examined through different theoretical lenses and employ a wide variety of approaches, both quantitatively and qualitatively. While many provide valuable insights into specific cases, they analyse only a very small sample. This leaves little room for generalisation. In contrast, quantitative studies that have elaborated on a more comprehensive collection were able to include a range of variables. However, they primarily focus on determining direct and individual causality between each of them and pay less attention to details, such as whether RWPPs are "only" in parliament, in a ruling coalition or the prime minister even hails from their ranks. Moreover, most studies ask if a country's actual climate action is sufficient or not, only elaborating on cases of high or low performance, rather than varying degrees.

Concerning the variables identified, it becomes apparent that different theoretical assumptions and empirical evidence exist. While literature frequently cites economic prosperity as determinant affecting a country's performance in climate-related policies, there is conflicting evidence on the nature of the effect, whether facilitative or inhibitory. At first glance, such findings may lead one to interpret the literature as redundant, as it seems difficult to draw any conclusion. However, since these studies often combine different conditions, it is not surprising that their results vary. Depending on the composition, they may interact differently. Although the studies allude to various

indicators, and the interaction between some of them, there is a lack of studies bundling and systematically including these conditions to examine the climate policy performance of EU member states – under which combination of conditions countries tend to underperform remains a crucial question from a political perspective.

4. THEORETICAL FRAMEWORK

This chapter embarks on reconciling the preceding empirical findings with theoretical considerations on policy choices and changes by linking them to the so-called "3Is" framework of institutions, ideas and interests. Subsequently, it proceeds by introducing the determinants used for the analysis and sketching the corresponding directional expectations.

4.1 THE '3I'-FRAMEWORK: IDEAS, INTERESTS, AND INSTITUTIONS

Within the literature of comparative politics, researchers applied various categories to explain divergent performance and policy change. While other nuances exist in the organisation of comparative politics, many of them are situated within one or more of the conventional concepts: institutions, interests, and ideas (Hall 1997; Hay 2004; Poteete 2003; Schmidt 2001; Scott 2008). The extent to which ideas matter, interests take precedence or whether institutional aspects dominate policy outcomes remains contentious in the debate (Kern 2011, p. 1116). This thesis does not intend to settle this perennial debate; rather it assumes that – given the diversity of the phenomenon being investigated – the concepts mutually interact, and all factors may be relevant to domestic climate performance. In the following, I address all three classifications and sketch out how they are linked to (climate) policy change and performance.

Institutions

In line with institution-based research, it is assumed that the primary factors behind policy changes and performance are particularly driven by institutional settings of the nation-state, referring to its organisational structure, capacities and functioning as well as the ruling government. Within this tradition, the state is considered to play a central role in setting the parameters for economic, social, and political activity while stimulating

markets and capital accumulation (Heilbroner 1985). Hence, the way in which institutions (including policies themselves) are structured shapes policy change (Pierson 1993; Hall & Taylor 1996). Institutions are thus the – formal and informal – "rules of the game" (North 1990, p.3), structuring policymaking by promoting certain outcomes at the expense of others. By creating a particular combination of political opportunities or constraints on policy options, they guide political and economic actors toward certain practices and away from others (Kern 2011, p.1120). The limits to policy change are dependent on the quality of the institutions that carry out these functions (i.e. their bureaucratic capability and organisational forms) and on political parties that form the ruling government. So, while "something about institutions […] explains the decisions that governments make" (Peters 2005, p.164), governments are also expected to play an influential role in supporting or hindering changes in existing institutions. Within the notion of conventional political economy research, it is argued that right- and left-wing governments act differently given that the former seeks to win the support of middle-class electorates who are more reluctant toward inflation and the latter from a working-class that fears unemployment. Accordingly, the degree of economic stimulus witnessed in the real economy differs by party affiliation (Hall 1997, p.179).

Formally, actions of a government are embedded in the same institutional framework, but its objectives and priorities may nevertheless differ fundamentally and produce different outcomes, depending on the party affiliation of the government. This dual dimension also comes into play in the area of climate-related ambitions. While institutional settings impose structural constraints on governance effectiveness and policy-making, it is the ruling party/parties that have the legitimacy to set the roadmap for climate policies and measures for their years in office.

Interests

The argument for interests is usually approached from rational choice-based explanations, which surmise that actors' action and performance is primarily motivated and driven by their interests to maximise personal utility (e.g. Hall & Taylor 1996; Price 2006; Hay 2004). It is what Hall (1997, p.176) defines as the "real, material interests of the principal actors, whether conceived as individuals or groups". Although these interests are less tangible goods compared to institutions, they are assumed to be more or less constant

over time, following the rational desire to maximise utility, and hence are largely 'knowable' (Blyth 2002; Kern 2011, p.1120). The ability of actors to realize and enforce their interests hinges upon the distribution of power and resources in a policy area, as well as their capacities (Shearer et al. 2016, p.1202).

In industrialized countries, such as EU member states, the political economy remains mostly the product of the relations between (and within) the state and its political organisations (parties), market stakeholders and organized interest groups. One strand of this literature concentrates on elections and voting patterns. Its central insight is that politicians are primarily concerned with securing their re-election to remain in power (Hall 1997, p.178). The other seeks to provide an explanation of shifts in performances and actions by examining changes in the vested interests of coalitions of economic and social actors. Interest-based analysis recognises that societal shifts can generate material consequences for a range of different actors, such as employees, whole sectors, or political agents. Some of these groups engage actively in social and political shifts. They often form coalitions to lobby and push for common goals (Purdon 2015, p.12).

In climate policy, the material interests at play typically revolve around the differential costs and benefits of adopting certain policies for involved actors, tensions between political and economic goals or beliefs, trade-offs between short- and long-term impacts, and asymmetric imbalances in who loses and who wins (Purdon 2015, p.12). While a rigid climate policy is beneficial for one group of actors, it may be unfavourable for another – known as the distribution effect of climate policy. In this framework, it is particularly companies and industries that base their decisions on cost-benefit analysis, wherein emissions, for instance, are frequently used as a proxy. If the assessment reveals mainly benefits, this is likely to result in being supportive of ambitious climate policies. Yet, if it indicates high expenses, support will be lacking (Fullerton & Muehlegger 2019). Industry and energy interests associated with specific technology sectors (e.g. oil, gas, or nuclear power generation) are of particular importance in charting a country's respective climate performance. These powerful incumbents wage political battles aimed at preventing the entry of new players (e.g. renewable energy interest groups) or incisively putting their fingerprints on the progress and regulation (Geels & Schot 2007; Moe 2015).

Ideas

Idea-based analysis posits that basic perceptions of the world or regarding particular issues matter to different actors, thereby influencing policy change. In particular, the ideas prevalent in the constituency and the considerations of influential shareholders seem to matter here, since politicians must try to appeal to this electorate (Hall 1993; Notermans 1993; Hall 1997, p.188). Ideas hold sway which narratives of a certain problem and possible solutions will be heard and understood by policymakers.

Literature exploring ideational variables assigns them different degrees of causal priority and relevance (ibid., p.183). One set of scholars admits that ideas are likely to be important, yet emphasises that other variables, such as interests, should take precedence in analyses. A second group argues that the economic policies selected by governments are strongly conditioned by prevailing ideas in the respective expert community and the public about appropriate policies or best-practices. The third body of researchers goes one step further and posits that ideas should be accorded causal primacy since they are fundamental to the basic meaning systems that make individual or collective action feasible (ibid., p.183-185).

Under the auspices of ideas, it is in particular considerations of post-materialism, individualism and party ideologies that make up a large part of the theoretical discourse. While the latter refers to the fact different ideological attitudes can be attributed to parties, according to their allocation in the conventional left-right spectrum, the notion of post-materialism is primarily concerned with ideas of individuals (Inglehart et al. 2014). General well-being may enable individuals to switch their primary focus of attention from economic and personal safety to topics such as environmental protection. Predominant norms, values, and beliefs in a society guide behaviour and the political decision-making process by offering a prevailing opinion. Thus, they reflect public perceptions, which in turn influence climate policy (Peeters 2021, p.13-14).

It is tricky to disentangle ideological factors from other types of variables (Hall 1997, p.185). Yet, ideas-oriented approaches provide a genuine value because they capture dimensions of human perceptions that are normally side-lined in other perspectives. Ideas influence agenda-setting, as well as policy formulation and implementation and therewith

performance. They affect which problems and solutions dominate the public discourse and are in turn discussed (Hall 1993; Shearer et al. 2016, p.1202).

Although scientific ideas also play an influential role in informing the public and political actors, the literature tends to conclude that the effect of climate science on actual performance is comparatively small (Brulle et al. 2012; Lachapelle 2012; Leiserowitz 2007). Scientific ideas often become politicised or have to bow to the material interests of the respective country (Purdon 2015, p.14). What seems to matter more are the ideas of citizens, who are entitled to vote. It is their votes which determine whether incumbent politicians remain in office. Accordingly, politicians try to be responsive to the needs and priorities of the broader population. Public opinion polls, particularly in industrialized countries, provide insight into the ideational dimension, i.e. perceptions on the issue of climate change. The lower the value placed on such issues in the public opinion, the less attention climate policy may receive from policymakers (e.g. Purdon 2014; Victor 2011).

These concepts often lead to three propositions, in which scholars, depending on their focus, assign more or less importance to interests, institutions, or ideas, respectively. Nevertheless, these approaches should not be understood as ironclad divisions. Although these perspectives differ to a considerable degree, they share several common concerns and assumptions, most notably the emphasis on how a range of regularities operating in political life affect political preferences and their expression and aggregation. These regularities shape the allocation of power and regulation of its exercise and thus are influencing outcomes (Immergut 1998; Lieberman 2002, p.699). Moreover, the factors used as proxies for the concepts can fit into any of the three categories depending on the perspective. Political parties as actors, for instance, can be studied from the concept of ideas, via the direction of ideology, or institutions, if they are part of the ruling government. Policymakers typically operate within an institutional framework of different ideas and interests among stakeholders, ultimately determining the objectives of policies and the types of instruments that can be used to achieve those goals (Hall 1993, p.297).

In a nutshell, it is about the relationship between the state, which is seen as the custodian of general interest with parties as to the government, and the market, which is considered

a vehicle for interchange between private interests, and the consequences of this interaction for the ideas and interests prevalent in society (Hall 1997, p.195). Climate science, in particular, tends to be a salient political factor in industrialized countries and only prevails in promoting climate action unless it is not incompatible with a country's economic interests (Harrison 2015; Purdon 2015, p.15). Against this backdrop, the 3Is-framework provides a solid theoretical background to explore constraints and explain divergent climate performances of EU member states (Shearer et al. 2016). By synthesising the three concepts, the framework serves as a theoretical checklist and is useful both retrospectively and prospectively in understanding the constraints of past policy decisions and planning future policies (Walt et al. 2008, p.308).

All conditions from the literature review that are repeatedly cited as being constraints to high climate performance are sorted according to the 3Is-framework of ideas, interests, and institutions, to understand the process of changes and possible interconnections. In the following, these determinants and their underlying rationales are explained in more detail.

4.2 CONDITIONS DERIVED FROM THE LITERATURE

Guided by the literature review and the theoretical considerations, the following part presents the conditions used for the QCA. This is done by clarifying where these expectations originate from. While many of the condition's expectations are supported by a certain underlying theoretical rationale, they are selected from a myriad of research fields and primarily have an empirical reason for being included..

Before turning to the determinants, it is necessary to briefly introduce some basic QCA-terminologies to understand the essence of the expectations derived for the analysis. Presumptions about the relationship between conditions and an outcome in QCA are not formulated as probabilities. Instead, so-called directional expectations denote counterfactual arguments to formulate how conditions could be related to the outcome, meaning what the presence of a condition signifies for the presence of the outcome (Schneider & Wagemann 2012, p.168–177). Five conditions categorised along the dimensions of institutions, interests and ideas are expected to influence the outcome – a

country's insufficient climate change performance – meaning that the presence of all conditions is associated with the presence of the outcome.

Institutions

Concerning institutional factors, the role of party-in-government is considered a central variable due to its function in the legislature and executive branches (Aldrich, 1995; Cox & McCubbins, 1993). They are the ones determining the choice of policy instruments and, thus, the type of outputs. As far as climate-related policy is concerned, parties rarely take positions against environmental protection, but they do place varying importance on environmental issues. Left-right partisan differences are especially relevant in this context (e.g. Spoon et al. 2014; Sewerin 2014). In particular, RWPP favour less restrictive policies, typically echoing those voices in the population claiming "environmentalism has gone too far" (Ivarsflaten 2008, p.8; Tosun & Debus 2021, p.229). Their ideology on climate change seems to be "not only an expression of prejudices and phobias against the "corrupt West", science and left-wing ecologists, but also an "ideological veil" used to defend real political interests" (Zuk & Szulecki 2020, p.9).

The claim that RWPPs pose a threat to climate ambitions is based on two types of explanations. The structuralist approach puts emphasis on the receptiveness of those individuals who have not profited from the neoliberal transformation process and who have been 'abandoned by the traditional left' to populist right-wing paroles. Under the guise of defending the interests of these 'ordinary people'', RWPPs seek to disregard or downplay the relevance of international and domestic agreements aimed at preserving the environment, alleging that they menace the domestic economy (Lockwood 2018). Meanwhile, the ideological perspective explains for the right-wing populists' climate scepticism and their penchant to believe conspiracy theories, their rejection of cosmopolitan responsibility for the entire world, and their general resentment of scientific universalism. These two approaches are not mutually exclusive. In contrast, its components coalesce into a general narrative in which national identity, security, sovereignty, and scepticism about universality prevail, ultimately affecting climate-related political arrangements (Zuk & Szulecki 2020, p.2). As part of an incumbent government, RWPPs are capable of establishing a style of politics where issues of

environmental protection or clean energy transition are marginalised (Batel & Devine-Wright, 2018). Therefore:

> *A RWP-party in government (POPULIST) is expected to be associated with the outcome.*

Political parties are generally restrained by institutional features, such as constitutional rules or bureaucratic capabilities. They represent fundamental ingredients for a country's governance effectiveness. From a theoretical perspective, the state is considered to fulfil a central function in setting the framework for social, political and economic activities and in enabling both markets and capital accumulation. On the one hand, government effectiveness refers to the independence of the civil service and the overall quality of public services. On the other hand, it requires effective coordination mechanisms to ensure policy coherence across departments and administrative structures, and frequent reviews of government agencies' business processes to guarantee efficiency of decision-making and implementation (Kaufmann et al. 2010).

Generally, high government effectiveness is associated with a range of positive effects, such as higher economic growth and accelerated technological innovation. Similarly, low effectiveness hinders governments in implementing policy changes. The institutions' quality (i.e. their bureaucratic capability) and organisational forms (i.e. the number of veto players) thus strongly affect structural change (Geels et al. 2017, Lamb & Minx 2020). The underlying assumption is straightforward: decision-makers do not operate in a space free of rules and organisational agreements, as institutional factors mediate their power. Against this backdrop:

> *A low degree of government effectiveness (GOVERN) is expected to be associated with the outcome.*

Interests

Policies do not evolve in a politico-institutional vacuum. Studies also emphasise the relevance of interest-based factors. In particular, high dependence on fossil fuels is considered an influential condition. Additionally, nuclear power, albeit zero-emitting, bequeaths serious problems such as toxic waste and the absence of a final repository. For

this reason, this energy source is also considered a constraint to sufficient performance in the analysis.

From a general perspective of interests, the shift away from unsustainable, non-renewable energy sources is viewed through a lens of conflict and power between certain interest groups (Fuchs et al. 2015). Vigorous climate policy constitutes an existential imminence to their standard operating practices, and the stakeholders involved will mobilise enormous financial and political resources to prevent this from happening. These efforts may include political lobbying, framing public discourse against climate action, or 'capturing' of government agencies responsible for regulation (Lamb & Minx 2020, p.2).

According to the literature, three mechanisms exist by which such a dependence may impede climate performance from the perspective of vested interests. First, from an economic perspective, in countries where non-renewable energy industries are strongly represented and produce significant income for the government, mitigation policies are considered costly. Such policies would have an impact on the industry, affecting revenues negatively. Second, imposing more regulation is likely to have negative effects on jobs in this sector, not only increasing a country's economic, but also political costs. Finally, countries with a strong non-renewable energy industry are likely to experience heavy lobbying against climate protection measures, for instance, by fossil fuel companies (Tørstad 2020, p.3). In light of this:

> *High dependency on non-renewable energy sources (NORENEW) is expected to be associated with the outcome*.

With respect to the link between economic indicators and a country's performance, literature cites the country's economic situation as an important aspect. The theoretical and empirical relationship with performance, however, is more complex. On the one hand, wealthier nations generally have higher abatement expenses, yet, on the other hand, also have larger financial capabilities to bear these costs (ibid.).

The latter is based on the observation that rich countries can mobilise more financial resources for the implementation of measures. In contrast, poorer states are often unable to carry out such functions and ambitions are bound to be ineffective if the country lacks financial resources to implement them (Morin et al. 2018). It has therefore been argued

that delivering ambitious climate policies represents a foregone conclusion in the setting of weak state capacity (Jacob et al. 2014). Within the EU, the level of economic wealth also varies greatly, however, in a global comparison, all member states belong to the category of countries possessing the greatest financial capacity to achieve mitigation targets through appropriate measures. While it may be true that "wealthier states appear to innovate first" (Volden 2006, p.312), it is equally correct that countries characterised by economic prosperity remain the principal polluters. This is particularly the case since the response to climate change by these countries continues to be based on the narrative that ambitious climate policy is possible without undermining economic growth (Delreux 2019, p.2). It is primarily designed to implement policies that change the technology to enable both economic prosperity through growth and the reduction of GHG emissions rather than limiting economic activity itself. The former may become a reality at some point in the future, but today's technology cannot yet offset the adverse economic effects. Having said this:

Economic prosperity (PROSPER) is expected to be associated with the outcome.

Ideas

Besides institutional and interest-based indicators, research has shown that ideational factors can wield considerable influence in the context of countries failing their mitigation targets. In particular, the importance the public attaches to climate and environmental issues (awareness, issue salience, risk perception) is related to a country's corresponding performance. The theoretical rationale is that, in a democratic system, politicians have an incentive to provide public goods and to respond to their voters' needs to retain power, since leading politicians can be easily removed from office through regular elections power (e.g. deMesquita et al. 2005). Seeking to generate broad political support and choosing their positions to maximise their chances to get re-elected, politicians tend to adopt policies that are closer to the ideal policies of the so-called median voter and appeal to the domestic audience (Anderson 2017, p.3-4). As a result, policy changes are in many cases preceded by shifts in the discourse or public opinion (Geels 2013, p.75).

Pressing public demands can incentivise and prompt politicians to advocate for green agendas: "Where voters and citizens express a favourable opinion of increased environmental regulation, governments will enact more stringent policies for ensuring

environmental quality" (Shum 2009, p.282). Likewise, a lack of public support represents a serious obstacle to the adoption of ambitious climate policies, such as transitions efforts to a low-carbon economy (Wiseman et al. 2013). The less the public is concerned about the state of the environment, or climate change as a threat, the fewer politicians will pay attention to these issues. While public awareness is vital for political action, a lower value placed on environmental issues by the public, incentivises policy-makers to pay less attention to these topics (Jensen & Spoon 2011, p.101). Consequently:

Low issue salience (SALIENCE) is expected to be associated with the outcome.

Summarising, I expect that all conditions have a combined influence on the presence of insufficient climate change performance (INSUF) as the outcome of interest.

Table 1. Conditions and Directional Expectations.

Condition	Condition is associated with positive outcome when..	Condition is associated with negative outcome, when..
Institutions		
Ruling RWPP	Present	Absent
Low Governance Effectiveness	Present	Absent
Interests		
Reliance on Non-Renewables	Present	Absent
Economic Prosperity	Present	Absent
Ideas	Present	Absent
Low Issue Salience	Present	Absent

When it comes to the link between cases and conditions, QCA works with assigning memberships. A case (here: EU member state) being a member of the condition NORENEW (= dependent on non-renewable energy) indicates that the country's energy consumption in question relies to a high extent on non-renewables. Vice versa, a non-member of the conditions is not or only merely reliant on them. Non-members of NORENEW are also included in QCA as members of the negated condition '*norenew'*, i.e. its absence[5]. The required information related to the operationalisation of these conditions, their data sources, and further QCA-specific terminology is discussed in the forthcoming chapter.

[5] To recap, QCA does not only include the conditions and outcome in the way I expect its effect (low issue salience (SALIENT) contributing to underperformance) but also the absence of these conditions (i.e. low public awareness 'salient').

5. RESEARCH DESIGN

This chapter delineates the methodology employed before presenting the data used for the analysis. By outlining the reasons for choosing QCA, the section introduces its basic components. The second part is devoted to explaining the case selection, followed by the operationalisation and calibration of all conditions.

5.1 METHOD: A FUZZY-SET QUALITATIVE COMPARATIVE ANALYSIS

For the purpose of this thesis, a Qualitative Comparative Analysis (QCA) is employed as the primary analytical tool. QCA is a set-theoretic approach establishing a logical connection between complex patterns – i.e. configurations of causes in the form of the absence or presence of different conditions – to certain effects (Ragin 2008; Rihoux & Ragin 2009). The technique is characterised by conjunctural causation and equifinality, which means that different combinations of conditions can lead to the same outcome (Schneider & Wagemann 2012). Its essence is to trace which combination of individual conditions is necessary and/or sufficient in order to produce an outcome (Ragin 2008). Necessity and sufficiency are the two set relations examined within the analysis and explained in Ragin's original work (1987) as follows:

> "A cause is defined as necessary if it must be present for a certain outcome to occur. A cause is defined as sufficient if by itself it can produce an outcome. [...] A cause is both necessary and sufficient if it is the only cause that produces an outcome and it is singular (that is, not a combination of causes). A cause is sufficient but not necessary if it is capable of producing the outcome but is not the only cause with this capability" (Ragin 1987, p. 99).

This feature of set relations becomes particularly important since I do not expect a single condition to be necessary or sufficient itself, but rather that the combination of certain conditions is associated with the occurrence of the outcome. Here, QCA rests on operators from Boolean algebra (AND, OR, and NOT) and a logical minimisation procedure allowing to derive set relations that hint at some form of causality for the outcome (Mello 2021, p.7). These components are explained in chapter 6. QCA's data analysis technically relies on standardised algorithms, the software RStudio, and corresponding packages (Schneider & Wagemann 2012, p.11). The approach is firmly based on theoretical assumptions since the conditions are to be selected by the researcher, and directional

expectations need to be set accordingly. Due to the fact that it does not allow for statistical testing, by checking for control variables, the conditions require a theoretical foundation of why and how they will affect the outcome (ibid.).

To be able to differentiate varying degrees of membership in the condition and outcome set, I rely on a fuzzy-set QCA. Fuzzy scales have three qualitative anchors and form the basis for the calibration of conditions by reflecting the country's membership in a particular category (e.g. PROSPER): the full presence of a concept (fuzzy-score of 1), its full absence (fuzzy-score of 0), as well as a point of indifference, where a case is neither in nor out (fuzzy-score of 0.5) (Schneider & Wagemann 2012, p.31). Since conditions often vary by degree, distinguishing between cases that are full members, full non-members, or ambiguous reduces the drawback of data information loss when assigning memberships. This "[..] offers a middle path between quantitative and qualitative measurement, [which] is not a compromise between these two; rather, it transcends many of the limitations of both" (Ragin 2008, p.71).

Given the inherent characteristics of QCA, it is considered a suitable method for my research objective. In general, QCA is able to fill a methodological gap for scenarios with approximately 10 to 50 cases, for which the number of instances is too large for conventional small-N comparison approaches and too small to permit (advanced) statistical methods (Schneider & Wagemann 2012, p.77). The main arguments for using QCA rest in the complexity of the subject: Although the causal link between factors and policy outputs, i.e., implemented policies, may seem comparatively straightforward, the further chain to policy outcomes remains fuzzy, indirect, and lengthy due to the influence of several possible intervening, mediating and thwarting factors. Against this backdrop, QCA yields several unique merits. Despite this observation, quantitative approaches continue to focus on the net effects of independent variables and causation in regression models is assumed to be linear. In contrast, small-n studies may offer decisive insights on specific cases, they cannot simply be transferred to other cases. QCA allows for some generalisation while still considering country specifics. Acknowledging the diversity of climate protection policies, it identifies combinations of variables and factors to explain underperformance (Purdon 2015, p.10). Moreover, the interconnectedness of the conditions, for instance, non-renewable energy resources rents as a sizeable part of a country's GDP but also the link between a country's economic resources and governance

effectiveness, and the fact that a different composition of the same conditions can lead to different outcomes, strongly argues in favour for a QCA.

Another rationale refers to the empirical fact that the direction of impact of some conditions used in the analysis is not clear. Since QCA also checks the negation of conditions and the negative outcome, it is valuable in settings "the nature of the evidence is not identical across cases" (Rihoux & Ragin 2007, p.89). Finally, the method provides an adequate starting point for exploratory research questions, where the influencing factors have not yet been fully investigated, as it may be able to identify broader patterns or expose irrelevant conditions and put forward those that are worth exploring in greater detail.

When conducting a QCA, it is essential to follow certain guidelines and procedures to ensure good practice and produce transparent results. Among other components, this refers to the justification of parameters, explanation of anchors, and the definition of QCA-specific values and terms. While the latter is gradually accomplished in the remainder, the first two aspects are part of the next chapter.

5.2 DATA: CASE SELECTION AND CALIBRATION OF CONDITIONS

The subchapter presents the analysis' case sample and outlines the rationales underlying their selection. This is followed by the operationalisation of the data sources and specifics before turning to the calibration of the outcome and each condition.

5.2.1 CASE SELECTION

The analysed sample includes (almost) all EU member states.[6] This is based on two rationales. First, the EU is often perceived as a frontrunner in adopting climate policies internally and promoting such policies externally. It has established one of the most ambitious and comprehensive legal frameworks, including both EU-wide measures and targets to be reached by individual member states (Dupont et al. 2018). Externally, the EU has advocated for legally binding international climate agreements. In an effort to

[6] Due to a lack of data, the countries Malta and Luxembourg had to be excluded from the case sample. A general overview of all cases is presented in Table A1 in the appendix.

“lead by example”, it has been an influential actor at major global climate conferences and is widely considered a driving force behind the successful outcome of COP 21 (Delreux 2019, p.1). From a global perspective, it is important that the EU continues to act as a strong player on the political stage and helps not only the formulation but also the implementation of the PA. This expectation is put forward from various sides and justified by the EU's high exemplary function as a climate pioneer.

However, the success of Paris hinges on effective country action. The key task for the EU is to go beyond its rhetoric and see its announced ambitions realised. A negative deviation from target achievement would go hand in hand with a loss of credibility, as does the discrepancy in ambition and performance. Both factors endanger the EU's self-set ideal of leading by example. At present, the emerging picture is a mixed one, as performance varies. Several member states are not on track to meet their NDCs (Gunfaus & Waisman 2021, p.1). The conditions causing underperformance at the member state level need to be identified and addressed at the EU level.

Second, the EU has a dual responsibility to meet its climate targets. On the one hand, it is the industrialised countries that have historically been the main contributors to the climate problem. On the other hand, it continues to do so. Member states together produce the third-largest amount of greenhouse gases after China and the U.S., rendering their performance an indispensable component in addressing the climate crisis (Mihalakas & Hyde 2020, p.417). Yet, most prior analyses that have dealt with factors for underperformance included both developed and developing countries. Such a heterogeneous case sample only allows for drawing conclusions about broad dimensions, such as the political system (e.g. democratic or authoritarian). Hence, narrowing the sample to a more homogeneous group of countries leads to the identification of more specific determinants, which may permit a more precise evaluation. Given the urgency of the topic and the leading role the Union plays, it is a worthwhile endeavour to understand the conditions that drive member states’ underperformance.

The period of assessment is the year 2019. This primarily results from the simple fact of data availability, especially concerning the outcome of interest. At the same time, it serves to offset the effect that the COVID-19 pandemic has. Given its outbreak in December 2019, it can further be argued that this year – compared to subsequent years – paints an

undistorted picture of the climate actions of EU member states that are not in a "state of emergency".

5.2.2 CALIBRATION OF CONDITIONS

This part is dedicated to the operationalisation and calibration of the outcome and conditions as preliminary steps prior to the analysis. The goal of calibration is to rescale raw data into fuzzy-set membership scores. That means that scores of raw measurements are directly interpreted using external standards, theoretical knowledge, and empirical evidence, thereby "connecting the meaning of a concept to numerical indicators" (Goertz 2020, p.74). This process is characterised by the assignment of qualitative anchors (Schneider & Wagemann 2012, p.32). Technically, as aforementioned, I can distinguish cases that are full non-members (lower anchor) from those that are full members (upper anchor) or ambiguous (crossover point). The crossover value is fixed at the point of "maximum ambiguity", where it is most unclear whether a case is more out than in or more in than out of the set (Ragin 2008, p.30). This anchor is considered the most important. Changing it has the largest qualitative impact on the results as it determines whether a case is a member or a non-member of the set (Schneider & Wagemann 2012, p.287-291). Yet, anchors are not chosen randomly but represent the best options as far as I am concerned and are embedded in a transparent and informed decision-making process grounded in the case and external knowledge. Each anchor should be mentioned after a short description and presentation of each indicator and its data source.[7]

INSUF. The outcome of interest is expected to be reflected by the underperformance of EU member states concerning their mitigation targets. It is operationalised using the Climate Change Performance Index (CCPI), developed by Germanwatch and Climate Action Network (Burck 2021). The index indicates climate ambitions by comparing the categories of GHG emissions, energy use, renewable energies and climate policy, thus offering a comprehensive synopsis of the actual efforts and current progress of the states analysed. It measures how close countries currently are to attaining the targets of the PA

[7] An overview of all determinants, indicators, data sources and anchors can be found in Table A2 of the Appendix. It ought to be clear that each index or indicator – apart from its merits – is shaped by limitations. Due to the thesis' limited scope, I am not able to present underlying calculation procedures and components in detail. More sophisticated explanations can be retrieved from the corresponding websites.

by assessing the status and future goals of each category in relation to a pathway that is well below 2°C. Put differently, it compares where countries stand with where they ought to be to achieve the ambitious benchmarks (Burck et al., 2021). Thereby, the CCPI offers a unique composition of quantifiable outcomes combined with a climate policy section that assesses a state's progress in implementing policies to achieve the PA goals, to examine output and outcome simultaneously. What should be clear is that it is extremely challenging to record and assess the performance of a state adequately in its entirety due to the complexity of the issue. Yet, compared to other global indicator sets or indices, the CCPI is a pioneering achievement and the best proxy, albeit an imperfect one, for the thesis' research objective.

For the analysis, I rely on the CCPI published in 2021. Given that most data are only available two years after they are recorded, the data year always is two years before the index is published. The CCPI score is based 40% on emissions indicators, 20% on renewables and 20% on energy use. The last 20% rely on expert assessments of national and international climate policy and strategies in each country (Caglar 2020, p.3). According to the index, renewable energies are rightly considered as a factor contributing to an outcome reflecting a country's level of performance. Yet, non-renewable energy sources – as its counterpart – are also part of the problem. Hence, they cannot be excluded from an analysis that assesses the combination of factors that lead to underperformance. For this reason, I exclude the "renewables" category from the original index and reweight it based on standardised data from the remaining three categories (the resulting weighting is as follows: 46.6% emissions, 26.6% energy use, and 26.6% climate policy).[8]

For validity reasons, I briefly compare the modified index with the original one and find that the deviation between both amounts only to an average of just 0.397 in a range from 1 to 100. Thus, for calibration purposes, the anchors for the outcome can still be set according to the CCPI-classification (high, medium, low, very low). INSUF is assigned full membership if the index is 40.0 or lower. These countries are seen to be the most underperforming member states within the EU in terms of climate policy ambition. In contrast, states that score 56.0 or higher are full non-members (lower anchor) since these

[8] The standardised data were kindly provided by the authors of the index with clear consent to reweight the index for the purpose of my research question.

cases are considered to be sufficiently performing. The crossover point of maximum ambiguity is set at 49.0.

POPULIST. The data for this condition is retrieved from two sources. First, and to identify RWP-parties, I use the Popu-List. It includes European parties from 31 countries that are either categorised as populist, far right, far left and/or Eurosceptic and which have obtained either (1) at least one seat or (2) at least 2% of the votes at national parliamentary elections since 1989. In a first step, I identified those parties that are labelled as "populist" and "far-right". The list's classification of the two terms is based on conventional definitions that are consistent with the one used in this thesis (Rooduijn et al. 2019). In a second step, I retrieved data from the *ParlGov* database (Döring et al. 2019). It contains information on about 1700 parties, 1000 elections, and 1600 cabinets for all EU states and allows me to track if and in which position the previously identified RWPPs were represented in the parliaments of EU member states in 2019.

This two-step procedure is based on the simple fact that the extent to which the RWPP has the opportunity to voice its ideologies and foster its priorities depends on its position within the parliamentary structure. As part of an incumbent government, a RWPP is capable of establishing a style of politics as part where issues of environmental protection or clean energy transition are marginalised. Although a "taming effect" can be observed, when they participate in a coalition government (Jahn 2021), the presence of RWPPs in government can still prevent policy change from happening (Jensen & Spoon 2011). Needless to say, in this position, a RWPP has much more political leverage than those only in the opposition or not represented in parliament.

This classification is converted into numerical values to determine membership values. A RWPP that provides the prime minister in a respective EU member state is assigned full membership with the value of 0.9. Being able to provide the prime minister is an indication that the RWPP is the strongest party in parliament. The anchor for full non-membership, meaning the absence of RWPP's in a country's parliament, is set at 0.1. The crossover point for this condition is 0.5. Above 0.5 but below 0.9 means that the RWPP in a respective country is part of a governing coalition but not providing the head of government, whilst EU member states assigned a value below the crossover point but

above 0.1 are those where RWPPs are represented as a party in the parliament but not part of the government.

GOVERN. Data to measure a government's effectiveness is obtained from the Worldwide Governance Indicators (WGI) project by the World Bank (2021). The WGI is composed of indicators from six different dimensions, ranging from zero to one, with higher values indicating better outcomes (Kaufmann et al. 2010, p.6). For my analysis, I focus on the index "government effectiveness", which captures a range of individual indicators, such as "perception of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (ibid.). The construction of the indicators is based on a large number of individual variables derived from various data sources.

While the indicator states that higher values between zero and one imply higher effectiveness, the indicator does not explicitly specify what individual values within the 0-1 spectrum mean. Due to the fact that the case sample consists of EU member states, it comes without saying that the indicator generally scores fairly high. In line with the acquis communautaire, member states are expected to be equipped with certain institutional and bureaucratic capacities that ensure effectiveness. Yet, the indicator used still provides considerable differences. An EU member state is full membership with a value of only 0.7, whereby the value for full non-membership of the condition is set at 0.9. The crossover point is 0.8.

NORENEW. To operationalise countries' dependence on non-renewable energy sources, I use the share of a country's electricity generation. Non-renewable energy sources in this context include coal, (natural) gas, and nuclear energy. The data is retrieved from Ember, an independent energy think tank that provides information on the global electricity power sector and the impact it has on the climate.

A country whose electricity generation consists of more than 80% fossil fuels or nuclear energy indicates a high level of dependence. In these countries, most of the electricity generated comes from non-renewable energy sources. A share greater than 60% is still relatively high, but a lower share is considered moderate reliance. Finally, if only 40% of

a country's power generation comes from non-renewable energy sources, it cannot be considered dependent. Accordingly, the anchors for this condition are set at 80 for full membership, at 60 as a crossover point, and 40 for full non-membership.

PROSPER. I capture the economic situation of a signatory country by employing the Gross Domestic Product (GDP) per capita as a variable. Obtained from the World Bank database, this indicator shows a state's total value of goods and services (in US dollars) produced in a year by its total population. In contrast to other well-known measurements such as the Gross National Product (GNP), the GDP allows for an adequate comparison, as the population of a country is taken into account. Besides, it is used throughout the vast majority of the studies presented. To pay tribute to its yearly fluctuations, I calculated the average of a country's GDP over a five-year period until the year under investigation.

The mean of a country's five-year GDP per capita serves as a base variable to calibrate this condition. Since it is not a finite value, the thesis opts for quartiles to set membership anchors. As outlined by Wagemann and Siewert (2018, p.14), quantitative data, such as quartiles, can provide important assistance for the calibration of quantities. A higher GDP is expected to contribute to the appearance of the outcome. Accordingly, the threshold for full membership is fixed at 44378.34 whereby the threshold for full non-membership is fixed at 16964.42. Finally, the cut-off point of maximum ambiguity is set at 23608.81.

SALIENCE. To measure public opinion and the issue salience of the topic "climate change" among citizens of an EU member state, I use semi-annual Eurobarometer data from spring and autumn 2019 (European Commission, 2019a;2019b).

The Eurobarometer represents the opinion research tool and public survey instrument used by EU institutions and agencies to gauge the state of public opinion on topics relevant to the EU and attitudes towards political or social issues. The question of interest for my condition is: "What do you think are the two most important issues facing [corresponding county] at the moment?". Within this question, several options are given, of which the respondent can provide a maximum of two, for instance, the economic situation, unemployment or energy supply. The issue of environmental and climate change recorded a strong increase and gradually emerged as one of the most important concerns at the EU and national levels in 2019. In fact, it became the second most

frequently mentioned issue with 20 (for comparison, the average score was 7 in 2017 and 14 in 2018). This also signals a trend of constantly growing public awareness of the relevance of the climate crisis, which cannot have bypassed decision-makers. However, despite this general EU-wide trend, the support for and perceived relevance of climate-related issues remains (very) low in certain member states throughout the years.

The variable used in my analysis represents the mean of the results from both surveys in 2019, which I use to assess the proportion of the population that is very concerned, fairly concerned or not at all concerned about the environment. While there is no official classification that determines when a value is perceived as an "important issue" by the public, the average value provided for all EU countries, which is 20, can be defined as the maximum point of ambiguity and provides a useful point of reference for the lower and upper anchor. A value of 11 and lower suggests that a country's population is not very worried about the environment. It is, thus, a full member of the set. In contrast, a value of 30, equaling one-third of the population, is taken to indicate that the public attributes a high priority to climate-related issues.

Through the calibration, each case is given scores for the outcome and conditions. These scores are noted in the data matrix and indicate the degree to which cases are members of the outcome and conditions. Until now, I concentrated on QCA as a research approach. This aspect descends from its qualitative roots and refers to "the iterative process of data collection, model specification, case selection and re-conceptualisation of the conditions and the outcome" (Schneider & Wagemann 2007, p.2). What follows from here is the analytical component of QCA.

6. EMPIRICAL ANALYSIS

This chapter constitutes the analytical core of this thesis. It aims to determine whether certain conditions are necessary or sufficient for the outcome (or its absence). The separate analyses are followed by the logical minimisation process of configurations. The interpretation of the results is supplemented by the description and discussion of each QCA step.

6.1 NECESSITY ANALYSIS

In the following, I examine the presence and absence of each condition for their necessity vis-à-vis the positive and negated outcome. The existence of a necessary condition implies that it is present whenever the outcome is present. Due to the topic's complexity, it is not expected that a single determinant fits the requirements for necessity, as the strongest set relation. Yet, the necessity analysis forms an indispensable part of a QCA. The results for the positive outcome (underperformance) are displayed in Table 2. It itemises the consistency and coverage values and the 'Relevance of Necessity' (RoN) parameter for all conditions (capitalised words) and their absence (lower-case words). Consistency is the primary measure for identifying potentially necessary conditions. The parameter expresses the approximation to a perfect subset relation and evaluates the "degree to which the cases sharing a given combination of conditions [...] agree in displaying the outcome in question" (Ragin 2008, p.44). For a condition to be regarded as necessary, it should reach a consistency value of 0.9. This is the threshold level in terms of what is required for causal necessity (Schneider & Wagemann 2012, p.278).

No condition can be considered necessary as the scores are too low. Yet, the condition NORENEW, indicating a country's high reliance on non-renewables, comes closest to the threshold (0.872). This means 87.2% of the outcome is covered by the quantity affiliation of this condition. For the sake of completeness, the following paragraph uses NORENEW to explain the meaning of the remaining parameters.

Table 2. Necessity Analysis of Single Conditions for the Positive Outcome.

	Consistency	Coverage	RoN
POPULIST	0.579	0.792	0.910
GOVERN	0.721	0.619	0.713
NORENEW	0.872	0.629	0.630
PROSPER	0.454	0.406	0.633
SALIENT	0.866	0.572	0.537
populist	0.569	0.370	0.431
govern	0.399	0.362	0.624
norenew	0.263	0.300	0.693
prosper	0.654	0.570	0.694
salient	0.228	0.303	0.743

Although a condition may formally be necessary for underperformance, it could be empirically irrelevant. Coverage indicates the empirical relevance of a condition by

assessing "the degree to which a cause or causal combination 'accounts for' instances of an outcome" (Ragin 2008, p.44). A value of at least 0.5 is used to rate a consistent condition relevant (Mello 2017, p.128). Against this backdrop, it can be stated that NORENEW indeed exceeds this formal benchmark, meaning that the outcome INSUF covers 58.7% of the membership values of this condition. While coverage correctly assesses the "overlap of the two sets relative to the size of the larger set (representing the outcome)" (Ragin 2008, p.57), the formula is insensitive to the relation in size between a condition and its negation. Coverage does not consider trivialness resulting from the fact that the necessary condition is (close to) a constant. Expressed mathematically, if set membership for the condition NORENEW was always 1 (the most blatant case of skewedness), the denominator corresponds to the amount of cases examined. To determine this type of trivial condition, Schneider and Wagemann (2012) proposed the RoN parameter as an additional metric. High values denote relevance and low values trivialness, whereby the coverage threshold of 0.5 is used as a reference benchmark.

Since no single condition can be discussed as necessary and relevant at this point, I apply this analytical procedure for the negated outcome in the next step (Table A5). Unlike correlation calculations, sets in QCA are seen as asymmetric: The explanation for the absence of the outcome cannot be derived from the explanation for its presence as its counterpart. If a condition is found to be necessary for the outcome, the same does not automatically apply to its absence. Analysing single conditions for the negative outcome "can either help to understand the causal logic driving the positive cases and/or can generate substantively interesting insights in their own right" (Schneider & Wagemann 2007, p.26). In my sample – although not fulfilling the formal consistency threshold – the absence of a RRWP in government seems to play a meaningful role in achieving sufficient climate performance.

While no single condition nor its negation can be declared necessary, their combination could reveal such a relation. To explore this, I proceed by checking for all possible disjunctions for both outcomes. A disjunction describes logical alternatives. Any such alternative is true if at least one of the constituents of a given combination is observed. The operation is referred to as logical OR and is denoted by using a plus sign (A+B) (Mello 2021, p.47). Another operator is a conjunction: For a particular combination of a set (specific combinations of conditions that lead to the outcome INSUF) to be present,

each of its constituent components has to be present. To denote such a combination, the operation is referred to as logical "AND" and is written with an asterisk (A*B). The program-supported calculations yield four disjunctions as visualised in Table 3. Each bipartite combination has passed the stringent inclusion threshold of 0.9 and the coverage cut-off of 0.5 but only one meets the criteria for the RoN parameter: Whenever a country is underperforming, either it is highly dependent on non-renewables (NORENEW) or a RWPP is part of its ruling government (POPULIST). Their combination constitutes a necessary disjunction for the occurrence of underperformance. The reliance on non-renewables constitutes an important component of every detected combination and, interestingly, it interacts with all three dimensions (interest, institution, ideas).

Table 3. Necessity Analysis of Combinations for the Positive Outcome.

		Consistency	Coverage	RoN
1	NORENEW+POPULIST	0.919	0.621	0.583
2	NORENEW+PROSPER	0.970	0.533	0.344
3	NORENEW+govern	0.951	0.516	0.320
4	NORENEW+salient	0.950	0.548	0.405

Note: incl.cut=0.9; cov.cut=0.5

With respect to the negated outcome (sufficient performance), four biliteral combinations are identified and reported in Table 4. Each disjunction can be formally considered necessary for climate performance. While vested non-renewable energy interests are an important factor in inadequate performance, the institutional component, particularly the absence of RWPPs, is the main component for combinations of conditions leading to sufficient performance interacting with all other conditions. In contrast to what I expected, economic prosperity is part of a disjunction leading to sufficient climate performance, warranting attention in the discussion section.

Table 4. Necessity Analysis of Combinations for the Negative Outcome.

		Consistency	Coverage	RoN
1	renew+populist	0.916	0.712	0.576
3	populist+PROSPER	0.945	0.699	0.518
4	populist+govern	0.951	0.695	0.503
5	populist+salient	0.938	0.731	0.594

Note: incl.cut=0.9; cov.cut=0.65

Eventually, no single condition constitutes a relevant necessary driver for an EU member state's climate underperformance, yet several combinations of conditions can be formally described as necessary relevant disjunctions for the positive or negative outcome.

Moreover, certain conditions have more explanatory power than others: While dependence on non-renewables (NORENEW) plays an important role for insufficient performance (INSUF), the absence of RWPPs in the political decision-making process (populist) constitutes the key ingredient for countries with sufficient performance (insuf). The potential meaning of these findings is discussed in the next chapter.

6.2 SUFFICIENCY ANALYSIS

The analysis of sufficiency screens every combination of conditions before logically minimising all conjunctions that have met the test of sufficiency (Schneider & Wagemann 2012, p.92). If a condition is considered sufficient for the occurrence of the outcome, it can cause the outcome; however, its absence does not imply the outcome is absent. This assessment is facilitated by the construction of truth tables for the positive and negative outcomes. They depict an aggregated format of the raw data after the set memberships of the cases have been assigned. Each row denotes one logically possible configuration of conditions and their relation to the outcome, with scores being either 0 (condition/outcome is absent) or 1 (condition/outcome is present). Configurations that are not observed among the empirical cases are generally referred to as 'logical remainders' and illustrated with a question mark.

In general, configurations in a truth table are sorted by the frequency (n.cut) and consistency (incl.cut) threshold. The frequency threshold specifies how many cases must be covered by a truth table row to be part of the minimisation process. As most commonly used, it is set to the minimum of one case per row (Schneider & Wagemann 2012, p.153). The sufficiency inclusion score indicates the consistency with which the cases display a sufficient relation with the outcome: If it reaches 1, this row would be deemed perfectly sufficient for the outcome. The consistency cut-off is set at 0.75, which resonates with the conventional sufficiency threshold and the natural gap between two consistency values in the distribution (0.901 and 0.773).

As visible in table five, three rows of the truth table exceed this threshold and are treated as positive instances of the outcome. They cover eight cases and are the configurations focused on for an explanation of the outcome INSUF. The first row covers five country cases, for which all conditions except PROSPER are present. Cyprus and Italy are also

classified as underperforming, yet a RWPP is not part of the explanation. Apart from the importance of the condition NORENEW, it further hints at the prevalence of the condition SALIENT, as it is present in every configuration in which underperformance (INSUF) is present. For six others with a total amount of 16 cases, the outcome column is coded as 0, since the configurations remain below 0.8. The truth table for the negated outcomes can be reviewed in the Appendix (Table A6).

Table 5. Truth Table for the Positive Outcome.

row number	NORENEW	POPULIST	PROSPER	GOVERN	SALIENT	OUT	n	Incl.	PRI	cases
28	1	1	0	1	1	1	5	0.921	0.892	Bulgaria, Hungary, Poland, Slovak Republic, Slovenia
24	1	0	1	1	1	1	2	0.907	0.757	Cyprus, Italy
26	1	1	0	0	1	1	1	0.901	0.857	Estonia
8	0	0	1	1	1	0	1	0.773	0.382	Spain
20	1	0	0	1	1	0	3	0.724	0.505	Czech Republic, Greece, Romania
21	1	0	1	0	0	0	6	0.370	0.186	Belgium, Finland, France, Germany, Ireland, Netherlands
4	0	0	0	1	1	0	2	0.350	0.001	Croatia, Lithuania
5	0	0	1	0	0	0	3	0.288	0.145	Austria, Denmark, Sweden
2	0	0	0	0	1	0	1	0.229	0.002	Portugal

Note: frequency = 1; consistency = 0.8; sort.by = c("incl."), complete=F; show.cases = TRUE

Since a truth table is still a complex depiction of conditions, it is followed by a logical minimisation procedure to identify the shortest possible logical expression for sufficient conditions for the outcome by eliminating redundancies through pairwise comparison of conjunctions. The Quine-McCluskey algorithm derives three solution types: the conservative, parsimonious, and intermediate solutions. They differ with respect to their treatment of logical remainders[9] (Mello 2021, p.124). The solution terms achieved are made up of so-called prime implicants that are connected through a logical OR. They are defined as "the end products of the logical minimisation process" (Schneider &

[9] Depending on the formula, more or Iess complex findings emerge as a product of minimisation. There is no consensus as to which solution best produces results that allow for causal interpretation and one type is not preferred over the others per se (Baumgartner & Thiem 2017).

Wagemann 2012, p.109). Minimal sufficiency is achieved when no further simplification is possible and models are built based on the produced prime implicant chart.

The first solution type to be discussed is the conservative solution. It only incorporates consistent rows, meaning those where the outcome is present. All assumptions about remainders are non-simplifying. Remainders are, therefore, assumed to be inconsistent for the outcome and replaced with a zero by the algorithm. As pictured in Table 6, the solution still contains a lot of information. One model is derived with two prime implicants.

Table 6. Conservative Solution of the Positive Outcome.

NORENEW*POPULIST*prosper*SALIENT +
populist*PROSPER*GOVERN*SALIENT → INSUF

	Solution Components	Con.	PRI	Cov.	U.Cov	Cases
1	NORENEW*POPULIST*prosper*SALIENT	0.912	0.883	0.472	0.386	Estonia, Bulgaria, Hungary, Poland, Slovak Republic, Slovenia
2	populist*PROSPER*GOVERN*SALIENT	0.829	0.739	0.213	0.021	Spain, Cyprus, Italy
	M1	0.866	0.813	0.635		

Note: Frequency and consistency threshold are the same as in the truth table, 1 and 0.8 respectively.

Besides consistency and PRI, the measures of fit to evaluate the sufficiency of solution terms are unique (u.cov) and raw coverage (cov). The former is limited to "the unique contribution of the individual pathway (including only those cases that are not also covered by other pathways) " (Mello 2021, p.109). It should be higher than zero. Raw coverage is used to measure how much of the total outcome INSUF is "explained" by a condition or their combinations. This solution illustrates that two combinations of conditions consistently lead to underperformance, explaining 63.5% of the outcome INSUF.

One path (NORENEW*POPULIST*prosper*SALIENT) indicates that EU member states performed badly where those that are highly dependent on non-renewables, ruled by a RWPP, characterised by the absence of high economic prosperity and a public in which climate change is not perceived as a salient issue. Interestingly, some conditions present in the first solution term change with respect to their nature in the second one (populist*PROSPER*GOVERN*SALIENT). The role of a RWPP appears to be less

significant for underperformance when the second institutional component, government ineffectiveness, is present. Climate policy adjustments are more complicated in an environment where the credibility of a government's commitment and the quality of policy formulation is perceived to be low. Moreover, even parties that are ambitious on climate policy must ultimately follow the interests of the public, which in both combinations is characterised by low awareness of the climate issue.

The conservative solution of the negative outcome produces one model with three prime implicants (Table A7). None of the solution components exceeds the required threshold for coverage. Since this solution type does not allow for much minimisation in my case, I proceed by producing the parsimonious solution. The parsimonious solution, in contrast to the conservative one, includes logical remainders in the minimisation process. Those remainders used for minimisation are referred to as "simplifying assumptions"[10] (Ragin 2000, p.305). If a remainder simplifies the conjunction, the remainder is evaluated as sufficient for the outcome by the algorithm. The parsimonious solution for the positive outcome, presented in Table 7, shows model ambiguity. The two produced models, covering 18 cases, offer some interesting insights. Three solution components are found to be sufficient for the outcome INSUF. All consistency values surpass the minimum threshold of 0.75. A RWPP in government turns out to be a sufficient condition for the positive outcome and an essential prime implicant in both models. The other components are non-essential, meaning that they are interchangeable with other non-essential prime implicants. One conjunction implies that high prosperity and low salience can lead to underperformance. This seems plausible. Wealthy member states in which society does not perceive climate change as a pressing issue has little incentive to credibly commit to climate protection: Because of one's own comfortable situation, the need for mere action is not seen as necessary and, eventually, not picked up by politicians that are supposed to serve public interests.

[10] This is done without any prior assessment of whether a sufficiency relation is plausible or not, which is why this solution contains difficult and easy counterfactuals. The exclusion of theoretical knowledge means that some assumptions may be contrary to the theoretical considerations.

Table 7. Parsimonious Solution of the Positive Outcome.

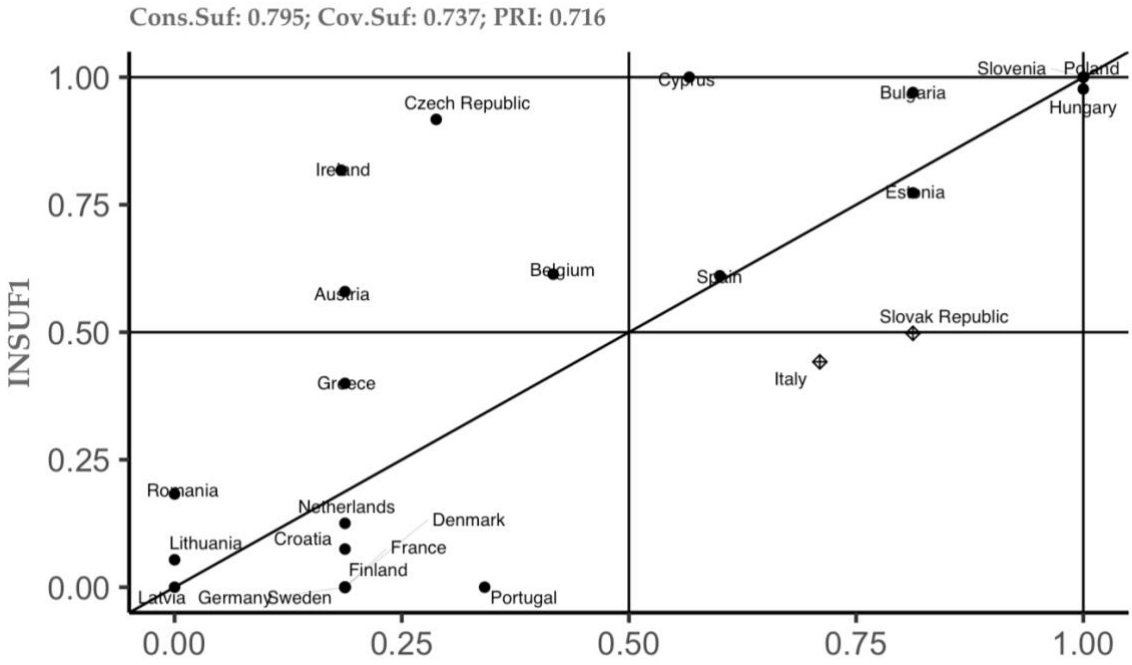
M1.	POPULIST + (PROSPER*GOVERN)	⟶	INSUF			
M2.	POPULIST + (PROSPER*SALIENT)	⟶	INSUF			
	Solution Components	**Con.**	**PRI**	**Cov.**	**U.Cov**	**Cases**
1	POPULIST	0.792	0.723	0.579	0.406	Estonia, Bulgaria, Hungary, Poland, Slovak Republic, Slovenia
2	PROSPER*GOVERN	0.840	0.703	0.314	0.012	Spain, Cyprus, Italy
3	PROSPER*SALIENT	0.793	0.625	0.333	0.014	Spain, Cyprus, Italy
	M1	0.795	0.716	0.737		
	M2	0.783	0.702	0.739		

Note: Consistency= 0.8; include = "?"; details = T; row dominance = F.

The goodness-of-fit and the explanatory power of the solution are illustrated in Figure 1. Here, the membership score of each case in the outcome INSUF is plotted against its membership in this solution formula. The eight countries of the upper right quadrant are in line with the statement of sufficiency and thus those of interest.[11] The fuzzy-set memberships of the cases that are positioned below the main diagonal mean are higher in the solution than in the outcome. These countries weaken the consistency of the sufficiency relation but are only 'inconsistent in degree' since they still exceed the qualitative benchmark of 0.5 in the outcome. Italy (lower-right quadrant), constitutes an 'inconsistency in kind' (Schneider & Wagemann 2012, p.306–10). These cases are deviant cases in terms of consistency, since they are covered by a certain sufficient path, yet do not show the outcome. In practice, it is common that the distribution may contain such cases. Yet, such cases should be excluded from the interpretation of results. Cases in the upper-left quadrant remain unexplained by the model since they are solid instances of the outcome (Y>0.5) but not of the sufficient determinant (X<0.5) (ibid.). Finally, the lower-left quadrant displays those cases that do neither belong to the solution formula nor the outcome of investigation (INSUF) and are therefore irrelevant for answering my research question.

[11] Bulgaria, Cyprus, Estonia, Hungary, Poland, Slovak Republic and Slovenia

Figure 1. Sufficiency Plot of the Parsimonious Solution (Positive Outcome).



Source: Personal calculations.

The parsimonious solution for the negated outcome indicates some interesting patterns that lead to sufficient climate performance. As visible in Table 8, it produces three models with four solution components. A low level of non-renewable energy dependency (norenew) is a sufficient condition and constitutes an essential prime implicant. The other solution components are non-essential.

Considering the large consensus between parties on climate change, solely RWPPs are mainly those actively impeding protective climate measures. When they are not part of the government and the country is characterised by high government effectiveness, this leads to good performance, as shown in 12 cases (Model 2). In other words, political will, coupled with structural imperatives, enables governments to act. Moreover, as discussed in the literature review, the direction of impact of economic prosperity is ambiguous. My result echoes this debate by noting that a prosperous economy coupled with high government effectiveness (i.e., bureaucracy to spend money efficiently in the right places) is sufficient to lead to adequate climate performance.

Table 8. Parsimonious Solution of the Negated Outcome.

M1. norenew + (salient) ⟶ insuf
M2. norenew + (populist*govern) ⟶ insuf
M3. norenew + (PROSPER*govern) ⟶ insuf

	Solution Components	Con.	PRI	Cov.	U.Cov	Cases
1	norenew	0.854	0.817	0.593	0.217	Austria, Croatia, Denmark, Portugal, Spain, Sweden
2	salient	0.822	0.785	0.488	0.004	Austria, Belgium, Finland, France, Germany, Ireland, Netherlands
3	populist*govern	0.810	0.767	0.559	0.006	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Portugal, Sweden
4	PROSPER*govern	0.754	0.690	0.556	0.007	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Sweden
	M1	0.835	0.794	0.845		
	M2	0.812	0.765	0.813		
	M3	0.803	0.757	0.739		

Note: Consistency= 0.8; include = "?"; details = T; row dominance = F.

Finally, the intermediate solution is supposed to provide a middle way between the other two solutions. Here, remainders that have been used in the derivation of the parsimonious solution are filtered according to my directional expectations. They prescribe which remainders should be set to 1 and which should not (Schneider & Wagemann 2012, p.282). Based on this information, the algorithm selects simplifying assumptions that are consistent with the formulated expectations to better align the solution with the actual sample (Duşa 2019). Theoretically, the presence of each condition is expected to be associated with insufficient climate-related performance and, thus, assigned the value 1. In contrast, their absence is reflected by a 0 for the negative outcome. The intermediate solution is calculated from a combination of possible conservative (C) and parsimonious (P) solutions. The minimisation results for the positive and the negative outcome are displayed in the appendix (Table A8). The solution for the positive outcome yields one quite complex model with two disjunctions of three conditions. The inclusion of the directional expectations seemingly does not allow for much minimisation, which also holds true for the negated outcome (Table A9). Nevertheless, in light of my theoretical

framework, particularly one observation is worth mentioning: Both solution components, although consisting of different conditions, can be precisely assigned to the different three dimensions of interests, ideas and institutions of the 3I framework, with the sufficient conjunction NORENEW*POPULIST*SALIENT addressed again in the discussion.

So far, this very technical analysis has shown that different combinations of conditions can lead to the outcome of an EU member state showing insufficient climate performance. The results produced by the parsimonious and intermediate solutions prove to be most meaningful for my research objective. In contrast to the rather complex conservative solution, the others provide a clearer picture of which (combinations of) conditions should be examined further and what the findings mean in light of my theoretical framework and expectations.[12]

7. DISCUSSION: WHAT DRIVES UNDERPERFORMANCE?

This chapter discusses the analysis' findings. The main part aims to have a closer look at those countries underperforming in my sample and concludes by outlining the thesis' shortcomings.

The results indicate three findings on the ambition-performance gap across EU member states, providing an answer to my research question. First, in line with the theoretical 3I-framework, different combinations of conditions from the three dimensions interact and lead to underperformance in several member states. Second, apart from the condition PROSPER, all directional expectations can be confirmed. With respect to the research question, all conditions, i.e. NORENEW, POPULIST, SALIENT, GOVERN, but also PROSPER can lead to underperformance through mutual interaction, with PROSPER being characterised by an ambiguous nature. Third, high reliance on non-renewable energy sources (NORENEW) and RWPPs in governments (POPULIST) prove to be the core conditions to explain a country's underperformance, primarily in Central and Eastern European Countries (CEECs). In the following, I address these findings in greater detail.

An EU member state underperforms whenever it is highly dependent on non-renewable energy sources or governed by a RWPP, while the former is part of every combination of

[12] In order to examine whether these findings prove 'robust' after changing an underlying element of the analysis, Appendix B offers a robustness check.

conditions leading to underperformance. The findings on adequate performance provide a more diverse picture of the conditions present in those countries that perform better. Apart from the absence of a RWPP in government as a highly relevant factor, the results reveal the importance of high salience in the population: An EU member state that is either not governed by an RRWP or whose public perceives the climate issue as relevant performs well. This interaction lends credence that politicians in a representative system are responsive to voters. Put differently, while parties other than RWPPs take climate policy much more seriously, high public awareness can lead to the issue being taken up, regardless of the party in power.

Moreover, several (combinations of) conditions can be picked up that exceed all thresholds and are sufficient to lead to the outcome. The findings again hint at the two core conditions, showing that RWPPs in government are crucial for underperformance, while low dependency on non-renewables is important for adequate performance. A more diverse picture emerges on those EU member states that perform better than the average: In ten cases, the combination of the absence of a RWPP and high government effectiveness (populist*govern) is associated with higher climate performance, while the mere presence of a RWPP in the government is already sufficient to contribute to underperformance, irrespective of the governmental effectiveness. This seems plausible, as sufficient climate policy performance, i.e. the capacity to smoothly implement policies, take comprehensive measures and use correct instruments, requires not only political will but an enabling and thus effective governmental setting to act on the ambition. Underperformance, on the other hand, is rather a matter of inaction, a lax attitude toward implementation and compliance, or maintaining the status quo, rendering governmental effectiveness unimportant. Another observation arises for economic prosperity. As mentioned within the literature review, studies point to conflicting evidence on the nature of its effect, meaning whether it is facilitative or inhibitory. In my analysis, economic wealth is both part of solution components that lead to underperformance *and* adequate performance. Ultimately, however, the thresholds for the solutions to be sufficient are only exceeded for adequate performance. They point to the positive effect of economic prosperity on a country's performance if it is accompanied by high government effectiveness. In other words, if a country has the financial means and the effective bureaucracy to spend the money, it can succeed in addressing its ambitions. Notably, the

countries for which this is the case are all Western or Northern European countries, as the cases include Austria, Denmark, Sweden, Belgium, Finland, France, Germany, Ireland, and the Netherlands. This geographic factor also becomes evident in other respects. The intermediate solution to underperformance, for instance, provides evidence of the simultaneous interaction between interests, institutions and ideas (NORENEW*POPULIST*SALIENT). This suggests that dependence on non-renewables is ultimately not primarily a technological or financial matter but should equally be viewed through the lens of ideological and political issues. Many issues related to climate policy – be it carbon pricing or the promotion of renewable energy – are deeply rooted in identities, ideologies, and culture. This is confirmed by the geographical divide among EU member states. All EU member states that are found to be underperforming (Estonia, Bulgaria, Hungary, Poland, Slovak Republic, Slovenia) are CEECs.

To better understand these results, it is helpful to take a closer look at the worst-performing countries Slovenia, Poland, and Hungary. While they have a range of cohesive features, they also differ in distinguished aspects. All three countries are geographically located in Eastern Europe. They are the only cases (in the sample) in which the head of government was from a RWPP at the time under investigation. Additionally, issue salience in the countries was low at that time, while their dependence on non-renewables in their energy mix was high. However, taking a closer look at the countries' energy sources draws a more nuanced picture. Slovenia and Poland heavily relied on coal for their energy production and had not developed a national coal phase-out strategy at the time of the study period, given their long reluctance to do so (Pickstone 2022). While one may argue that underperformance naturally arises from a higher share of fossil fuels automatically causing higher emissions, Hungary generates most of its electricity from nuclear power, which is zero-emitting. As another example, Germany produced nearly one-third of its electricity from coal in 2019 and is heavily reliant on gas, yet its performance is much better compared to these three countries. This indicates the high relevance not only of the given structural dependencies but the political will for (policy) change and corresponding prioritisation.

Placing these findings in a broader discussion, they seem to reflect three interdependent realities that pose certain risks to high climate performance at the EU level in the future.

First, looking at the regional disparities, a clear geographic pattern emerges reflecting a persistent east-west divide in climate outcomes, with citizens in North-western European countries much more concerned about climate change than those in CEECs. The latter has shown to be highly protective of their traditional, energy-intensive industries by prioritising jobs over climate action. This influences public opinion and attitudes, which are additionally fuelled by the RWP-narrative that climate policies are 'at the expense of the people'. They stress the disproportionate, distributional effect of such policies, especially in the area of energy policy and those with a high share in coal-fired power generation, which allegedly increase social and economic inequality (Jacob et al. 2020, p.303). As a result, for instance, Poland, supported among others by Hungary, initially rejected the Commission's proposal for more ambitious targets for a climate-neutral EU by 2050 in 2019 (Lessenki 2019). While the EU has still managed to establish uniform and ambitious goals within the EGD and the fit-for-55 package, it has little leverage to persuade reluctant states to improve their performance if they do not act. RWPPs frequently conclude that EU climate measures are not only too expensive but also ineffective amid global gridlock. On top, the assessment of climate policy harming the nation-state is often coupled with Euroscepticism (Schaller & Carius 2019, p.41). In the future, this may make it increasingly difficult for member states to reach consensus.

Second, and unsurprisingly, the key element for the EU and its member states to achieve their mitigation target remains a swift transition to a low-carbon energy system. Yet, in particular, the energy policy discourse can be seen as a political issue that generates ideological opposition of CEECs. While Poland committed to phase-out coal by 2030 at COP26, the country reversed its pledge only hours after the ink had dried and sticks to a coal phase-out sometime in the 2040s (Taylor 2021). Hungary, on the other side, has opted to bring its coal exit forward to 2025. Its main energy source, nuclear power, however, is untouched by that pledge. On the contrary, the country is currently building two new nuclear power reactors that are expected to start producing power in 2027 and 2028 respectively (World-Nuclear-Association 2021). In contrast, recent developments in Slovenia could have important implications for the country's future climate performance. Earlier this year, the country announced its plan to phase out coal, while elections in April 2022 led to a new government that appears committed to more ambitious climate action. At the same time, Russia's war against Ukraine has heavily

bolstered the urgency to quickly transform member states' energy systems and reduce the EU's dependence on Russian oil and gas. Therefore, the EU and its member states are taking steps to replace Russian fossil fuels imports, even discussing an oil embargo. While this may offer an opportunity to accelerate the deployment of clean electricity, it also risks unsettling effects on member states' climate performance if relapsing into coal. In the wake of a rapid transformation, stronger emitting energy sources might be used as temporary short-term solutions. In Germany, for example, the situation continues to prompt consideration of delaying the phase-out of coal-fired power generation (Delfs 2022).

Thirdly, right-wing populism in the EU is not only a challenge for a socio-ecological transformation, but it could also change the party landscape. Although the last elections in Slovenia, and also in Portugal, Germany and France show that climate policy in the coming years will not be determined by the RWP-governments in many member states, the question arises to what extent they impact the political discourse by influencing positions of centrist parties. One major challenge to the implementation of the PA is not necessarily the RWPPs as such but the risk of centrist parties shifting their positions and adopting their language and arguments in the competition for votes (Schaller & Carius 2019). This may lead to less ambitious climate and energy positions in response to voters' scepticism about certain policies.

In a nutshell, these results reveal that while non-renewables pose a structural barrier to high climate performance of an EU member state, right-wing populism seems to pose its biggest threat. This effect can be levelled or amplified by the presence or absence of various conditions, e.g. SALIENT or GOVERN. Before providing policy advice on this issue in the next chapter, it is important to address the limitations of this work.

Limitations

While the analysis provides several interesting insights, it is marked by certain shortcomings that can be broadly classified as issue-, method-, and data-related.

First, due to the complex nature of political, economic, social, and ecological systems, numerous interceding, mediatory, and confounding variables are involved in a country's actual climate performance (Goldthau & Sovacool 2012). Against this backdrop, it is

simply impossible to develop a flawless indicator as a proxy for such an outcome. At the same time, it is not only difficult to correctly measure environmental endpoints to assess performance but also to reliably separate the impact of the conditions on a country's performance due to the possibility of other factors or reverse causality. Although the selected factors are those that have been most emphasised and found to be drivers of the outcome of (in)adequate performance, the complexity of the issue may cause their impact to be over- or underestimated. While it is crucial to acknowledge these facts as major limitations, the urgency of the issue gives rise to the necessity for a clearer picture of the factors of underperformance, while the cross-national comparative approach taken enables us to identify broad patterns of climate underperformance in EU member states and specific cases of interest for further research. Beyond that, the CCPI as the indicator for the outcome can certainly be seen as extremely versatile and sophisticated, holding great promise for providing a better understanding of the thesis' research objective.

Another, albeit smaller, limitation refers to the theoretical foundation for the analysis. Ideally, a QCA follows from the combination of theoretical knowledge and empirical evidence, whereby the empirical argument is subordinated to the theoretical one (Schneider & Wagemann 2012, p. 12). While most expectations are based on a solid theoretical rationale, they primarily have an empirical reason for being included. However, this is a conscious trade-off: Although the specific theoretical requirements of QCA could not be perfectly matched, the theoretical foundations work well enough for the purpose of my thesis and provide me with the suitable middle ground between quantitative and qualitative methods needed in this context.

Third, the method itself entails three drawbacks that limit all QCA-based results. QCA does not allow for a mere generalisation. Rather, it captures the uniqueness of the EU as the chosen sample. Adding cases may produce different results. This epistemological issue narrows the scope for interpretation of the conditions identified as associated with the outcome since their merits should only be considered as such in light of this sample. The second point relates to the causal interpretation of QCA results. The method does not aim to provide unequivocal evidence of causality. I can provide evidence on the extent to which relationships between (combinations of) determinants and the outcome are supported by the empirical data. However, I am not able to make probabilistic statements or general claims about the impact of non-renewable energy dependence. Third, the

method can suffer from subjectivity. During several steps of the analysis, the researcher is required to make decisions, such as setting membership thresholds and the selection conditions, for which there are always arguments for and against. While this suggests that the result's validity should be treated with caution, QCA proved to be an appropriate method for my exploratory research objective. In a complex setting where different factors are assumed to be at play, QCA profits from equifinality as a key ideal. In line with this, different configurations have been identified as leading to the same outcome. By uncovering different patterns of conditions, the analysis yields several intriguing results that provide a clearer understanding of these conditions and allows for different recommendations.

Finally, the thesis is constrained by the limited availability of fine-grained data. Firstly, many indicators have been developed to explore phenomena around the world and therefore cover an extremely wide range of countries. In comparison to them, the EU represents a relatively homogeneous group of countries. Having a case sample only consisting of EU member states means that only those variables are suitable that can still filter nuanced differences between them – even if calculated for a large number of different countries. For instance, I would have preferred to use the Human Development Index (HDI) instead of the country's GDP, as the index puts much more emphasis on the quality of life, i.e. education and health, not just a country's production capacity. While it offers a promising alternative, it paints a rather undifferentiated picture within the EU, with little variation between member states. Lastly, some of the chosen indicators such as salience, unlike economic growth or non-renewable energy consumption, are not quantifiable and therefore not easy to measure adequately. Despite these limitations, some insightful conclusions can be drawn from this thesis, which are addressed below.

8. CONCLUSION

Following the adoption of the PA in 2015, in which the EU played an important role, the EU has continued to commit to overarching strategies, such as the EGD-package in 2019, to lead by example. Yet, simultaneously, its member states are characterised by varying levels of climate performance, with some severely lacking behind expectations. Against this background, this thesis conducted a comparative analysis of five domestic factors to

examine the conditions under which EU member states fail to act on their climate mitigation efforts. Drawing from a range of theoretical perspectives and empirical evidence, the analysis shed light on the ambition-performance gap with the CCPI as the outcome under investigation.

The results speak to the existing literature, highlighting the critical role of the dependency on non-renewables and RWPPs in governments for insufficient climate performance. The negative effect of non-renewables, particularly fossil fuels, on climate performance has long been discussed in politics and academia and this thesis reiterates what has long been clearly and consistently urged: to put an end to fossil fuel consumption. The role of RWPPs, in contrast, is one that heralds more attention. A closer look at the underperforming countries (/region) suggests that right-wing populism appears to be the main driver for underperformance in my case sample. The narratives disseminated through RWPPs heavily shape the discourse on divestment from non-renewables, while influencing public opinion and perceptions of climate change. Furthermore, RWPPs in government have access to (public) resources and can decide how money is spent, while their mere inaction makes high government effectiveness a redundant condition.

While this poses immense risks to the EU's overall climate performance, the results also reveal that climate action is a conscious choice that requires governments' political will to act in the first place and can lead to high performance if it is met by the right institutional framework and financial means. The COVID-19 crisis has shown that the EU is able to quickly allocate a massive amount of (financial) resources and support its member states if a crisis is deemed acute enough. In the same vein, Russia's war in Ukraine served as a wake-up call that renewable energies are not only beneficial for the climate but also national security. Thereby, it has been proven that rapid changes in the energy sector and the shift away from fossil fuels (at least Russian ones) are possible if political actors recognise the need, take bold actions and make serious efforts to bring about such change. While the provision of resources seems to be a straightforward action, the question of political will to act is more multifaceted. Here, it is important to draw some advice for future action.

Echoing RWPP's statements, climate policies supposedly increase social and economic inequalities, as the issue of climate change is frequently portrayed as an elitist concoction

at the disproportionate expense of “the people” – an image that contributed to growing mistrust in democratic institutions but also science (Schaller & Carius 2019, p.47). To counter such narratives, EU institutions and domestic established parties should fundamentally change their climate communication. Most mainstream parties have primarily engaged in a fact-based but very technocratic discourse in the past, often marginalising social realities that are far removed from citizens' expectations.

On the one hand, they must be more responsive to the issues that are of concern to parts of the population, and successfully picked up by populist forces, particularly in CEECs. To (re)gain trust in climate policies and action, legitimate public concerns must be heard and acknowledged. Instead of framing climate action, such as energy-related decarbonisation efforts, mainly as a technical issue, a credible and affirmative narrative of modernisation, in which climate policies are embedded in social policies and formulated as such, is imperative (ibid.). This could ultimately increase the legitimacy of such policies as a credible path to socio-ecological transformation and deprive RWPPs of voter mobilisation potential. RWPPs, just like other parties in European democracies, rely on their electorates and thus have the incentive to respond to their voters’ needs to retain power. As shown in my analysis, high issue salience contributes to a higher climate performance, while its absence can indeed lead to underperformance.

On the other hand, especially in the context of (EU) climate policy, there is a prevailing tendency to agree on sensitive issues at the EU and international level and sell them as having no alternative in one's own country. Instead, it is important to make clear why a policy at the European that cedes (or would be willing to cede) national responsibilities is in the national interest (Sommer et al. 2022). “Communicating co-benefits of climate action helps connect climate policy to the long list of domestic concerns while reconciling internal and external dimensions of climate policy” (Schaller & Carius 2019, p.49).

Apart from reframing the issue to better inform and involve citizens (who in turn can exert pressure on political actors), the EU is well-equipped with solid tools and mechanisms to push through ambitious policies at the institutional level. Yet, in a policy domain such as climate policy, which is prone to free-riding, agreeing on (partially non-binding) targets seems insufficient to steer the performance of the least willing member states. Stricter enforcement procedures could play a crucial role in forcing

underperforming states to improve their actions and thus performance. Within this context, the Commission's proposed regulation for an EU taxonomy for sustainable activities, which is supported by most CEECs (Pernezcky 2022), cannot go unmentioned. Contrary to many critical voices from scientists and economists, the proposed regulation intends to facilitate investments by designating nuclear power and gas as "green" energies. Irrespective of the fact that both energy sources are unavoidable to enable a resilient energy transition, labelling them as "green" does not serve the EU's climate targets but rather represents a political ploy to formally increase the use of "clean" energies. The regulations' inaccuracies and weak rules may even jeopardise its medium-term goals by supporting member states like Hungary in their unwillingness to improve their climate performance in the energy sector and need fundamental revision.[13]

Ultimately, the aspects raised above call for further substantiated academic research. The identified limitations of this exploratory work provide an impetus for future research and allow for various recommendations. Prospective analyses would benefit from the augmentation of current data. There are certainly some indicators that would be worth examining if they were able to provide more nuanced differentiation. For instance, some member states face more challenges to adaptation than others. They are affected to varying degrees by environmental damage. Vulnerable countries may be more ambitious and perform better to mitigate disproportionate adverse impacts. This is an interesting aspect that warrants further investigation.

Future research should also include the role of the media more systemically when examining the conditions that influence a country's climate performance, especially in light of the above-discussed reframing of the issue. The "mediatisation" of politics in recent decades underscores that media coverage is a potentially powerful force influencing policymaking. Besides the public's impact on policy, mass media garners policymakers' attention and thus potentially influences policy outputs, while the media can shape the public's opinions on political issues, e.g. whether citizens view environmental quality as a salient concern (Bakaki et al. 2020). Additionally, while my comparative analysis has highlighted different factors driving underperformance, it is necessary to conduct more detailed analyses based on these results, e.g. whether the non-

[13] A detailed examination of this proposal is beyond the scope of this thesis. In case of interest, I gladly provide my commentary piece, written in January 2022, for a more thorough discussion on this issue.

renewable energy type (coal, nuclear or gas) makes a difference. Additionally, for RWPP, the literature often general diagnoses anti-environmentalism, yet the parties' attitudes towards climate change and policy vary. This, in turn, also requires differentiation in the corresponding discourse.

Finally, despite acute crises, such as the ongoing war in Ukraine or looming opposition to climate action from a latent RWP-threat, the EU and therewith its member states must stick to their commitments made in the PA. Internal EU coherence is not only the basic prerequisite for achieving the EU's climate targets but ultimately also one of its main climate diplomacy tools to convince other countries, whose commitment is equally needed to minimise the damage of climate change, to increase their ambitions and act. While this thesis sketches out several research recommendations and far-reaching policy implications, the time horizon in which adherence to the Paris climate targets still matters is getting shorter and shorter. Global players will have to increase their efforts if they hope to hit the 2°C (or even the 1.5°C) target. From an optimistic perspective, the global stocktake, as the PA's health check, assessing countries' progress towards achieving their targets, can provide an opportunity to explore how to close the current ambition-performance gap. Initiated in 2021, the GST is expected to concluded at the COP28 next year. It could pave the way for stronger cooperation, as well as inform policymakers on further steps and measures at the political, technical, and societal level to unlock the agreement's success. However, if the urgently needed actions once again remain mere rhetorical promises, it is doubtful that the PA was indeed the major breakthrough touted by the international community.

BIBLIOGRAPHY

Agnone, J. (2007). Amplifying public opinion: the policy impact of the US environmental movement. *Social Forces*. 85 (4): 1593–620.

Aldrich, J. (1995) *Why Parties? The Origins and Transformation of Political Parties in America*. Chicago IL: University of Chicago Press.

Alloisio, I., Borghesi, S. and Nicolli, F. (2020). Increasing the ambition of the EU Nationally Determined Contribution: lessons from a survey of experts and students. *Economia Politica*. Luxembourg: SpringerLink.

Anderson, S. (2011) Complex constituencies: intense environmentalists and representation. *Environmental Politics*. 20: 547–65.

Anderson, B., Böhmelt, T. and Ward, T. (2017). Public opinion and environmental policy output: a cross-national analysis of energy policies in Europe." *Environmental Research Letters*. 12 (11): 114011.

Avrami, L. and Sprinz, D. (2018). Measuring and explaining the EU's effect on national climate performance. Environmental Politics.

Bäckstrand, K., Kuyper, J. W., Linnér, B. O. and Lövbrand, E. (2017). Non- state actors in global climate governance: from Copenhagen to Paris and beyond. *Environmental Politics*. 26(4): 561–579.

Bang, G., Underdal, A. and Andresen, S. (2015). *The domestic politics of global climate change: Key actors in international climate cooperation*. Cheltenham: Edward Elgar.

Bättig, M.B. and Bernauer, T. (2009). National institutions and global public goods: are democracies more cooperative in climate change policy?. *International organization*. 63 (2): 281-308.

Bakaki, Z., Böhmelt, T. and Ward, H. (2020). The triangular relationship between public concern for environmental issues, policy output, and media attention. *Environmental Politics*. 29 (7): 1157-1177.

Batel, S. and Devine-Wright, P. (2018). Populism, identities and responses to energy infra- structures at different scales in the United Kingdom: A post-Brexit reflection, Energy Research & Social Science. 43: 41–47.

Bernauer, T. and Böhmelt, T. (2013) National climate policies in international comparison: the climate change cooperation index. *Environmental Science & Policy*. 25: 196-206.

Biard, B., Bernhard, L. and Betz, H.-G. (2019). *Do they make a difference? The policy influence of radical right populist parties in Western Europe*. Washington D.C.: Rowman & Littlefield.

Blyth M. (2002). *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century*. Cambridge: Cambridge University Press.

Bodansky, D. (2016). The Paris Climate Change Agreement: A New Hope? *The American Journal of International Law.* 110 (2): 288–319.

Brulle, R.J., Carmichael, J. and Jenkins, J.C. (2012). Shifting public opinion on Climate Change: An Empirical Assessment of Factors Influencing Concern over Climate Change in the US, 2002–2010. *Climatic Change.* 114: 169–188.

Burck, J. (2021). Climate Change Performance Index at a Glance. Climate Change Performance Index. Retrieved from: https://ccpi.org/wp-content/uploads/CCPI-at-a-glance.pdf (last accessed on May 3, 2022).

Burk, J. Hagen, U., Bals, C., Höhne, N. and Nascimento, L. (2021) Climate Change Performance Index 2021. Retrieved from: https://ccpi.org/download/the-climate-change-performance-index-2021/ (last accessed on April 22, 2022).

Burns, C. (2020). Environment and Climate 2050: Common Purpose or Constraining Dissensus? In: Damro, C., Heins, E. and Scott, D. (2021). *European Futures. Challenges and Crossroads for the European Union of 2050* (pp. 76-92). London: Routledge – Taylor & Francis Group.

Caglar, A.E. (2020). The importance of renewable energy consumption and FDI inflows in reducing environmental degradation: Bootstrap ARDL bound test in selected 9 countries. *Journal of Cleaner Production,* 264 (121663).

Carter, N. (2013). Greening the mainstream: party politics and the environment, *Environmental Politics*. 22 (1): 73-94.

Coen, D., Kreienkamp, J. and Pegram, T. (2020). *Global Climate Governance* (Elements in Public and Nonprofit Administration). Cambridge: Cambridge University Press.

Ćetković, S. and Hagemann, C. 2020. Changing climate for populists? Examining the influence of radical-right political parties on low-carbon energy transitions in Western Europe. *Energy Research & Social Science*. 66: 101571.

Cox, G. W. and McCubbins, M. (1993). *Legislative Leviathan: Party Government in the House*. Berkeley CA: University of California Press.

Delf, A. (May 24, 2022). Germany to Bring Back Coal Power Plants If Russia Cuts Gas. Time. Retrieved from: https://time.com/6180579/germany-coal-power-russia (last accessed on Jun 2, 2022).

Delreux, T. and Ohler, F. (2019). *Climate Policy in European Union Politics*. Oxford: Oxford Research Encyclopedia of Politics.

De Mesquita, B., Smith, A., Siverson, R. and Morrow, J. (2005). *The Logic of Political Survival* (Cambridge, MA: MIT Press).

Döring, H., Huber. C. and Manow, P. (2022). Parliaments and governments database (ParlGov): Information on parties, elections and cabinets in established democracies. Development version. Retrieve from: https://www.parlgov.org/ (last accessed on March 31, 2021).

Dröge, S. and Schrader, T.-S. (2021). Back to the future? International climate policy in 2021: new constellations for the EU's climate diplomacy. *SWP Comment*, 14/2021. Berlin: Stiftung Wissenschaft und Politik (SWP).

Dubash, N. K., Hagemann, M., Höhne, N. and Upadhyaya, P. (2013). Developments in national climate change mitigation legislation and strategy. *Climate Policy*. 13 (6): 649–664.

Dunlap, R. E., McCright, A. M. and Yarosh, J. H. (2016). The political divide on climate change: Partisan polarization widens in the U.S. Environment. *Science and Policy for Sustainable Development*. 58 (5): 4–23.

Dupont, C. (2019). The EU's collective securitisation of climate change. *West European Politics*. 42(2): 369–390.

Du Robiou Pont, Y., Jeffery, M. L., Gütschow, J., Rogelj, J., Christoff, P. and Meinshausen, M. (2017). Equitable mitigation to achieve the Paris Agreement goals. *Nature Climate Change*. 7 (1): 38–43.

European Commission (2019a). Standard Eurobarometer 91 – Spring 2019. Retrieved from: https://europa.eu/eurobarometer/surveys/detail/2253 (accessed on April 02, 2022).

European Commission (2019b). Standard Eurobarometer 92 – Autumn 2019.. Retrieved from: https://europa.eu/eurobarometer/surveys/detail/2255 (accessed on April 02, 2022).

Ember (2019). Electricity Production 2019 (numbers in percent). Ember. Retrieved from: https://ember-climate.org/data/data-explorer/ (last accessed on April 04, 2022).

Falkner, R. (2016). The Paris Agreement and the new logic of international climate politics. *International Affairs*. 92(5): 1107–1125.

Fuchs, D., Di Giulio, A. Glaab, K. Lorek, S., Maniates, M. Princen, T. and Røpke, I. (2015). Power: the missing element in sustainable consumption and absolute reductions research and action. *Journal of Cleaner Production.* 132: 298–307.

Fullerton, D. and Muehlegger , E. (2019). Who bears the Economic Burdens of Environmental Regulations? *Review of Environmental Economics and Policy.* 13 (1): 62–82.

Geels, F. (2013). The impact of the financial-economic crisis on sustainability transitions: Financial investment, governance and public discourse. *Environmental Innovation and Societal Transitions*. 6: 67–95.

Geels, F. W. and Schot, J. (2007). Typology of sociotechnical transition pathways. *Research Policy*. 36 (3): 399–417.

Geels, F.W., Sovacool, B.K., Schwanen, T. and Sorrell, S. (2017). The socio-technical dynamics of low-carbon transitions. *Joule*. 1 (3): 1–17.

Gemenis, K., Katsanidou, A. and Vasilopoulou, S. (2012). *The politics of anti-environmentalism: Positional issue framing by the European radical right*. Paper prepared for the MPSA Annual Conference, 12–15 April 2012, Chicago. Retrieved from: https://ris.utwente.nl/ws/MPSA.pdf (last accessed on March 7, 2022).

Giddens, A. (2009). *The Politics of Climate Change*. Cambridge: Polity.

Goldthau, A. and Sovacool. B.K. (2012). The Uniqueness of the Energy Security, Justice, and Governance Problem. *Energy Policy*. 41: 232–40.

Goertz, G. (2020). *Social Science Concepts and Measurement*. Princeton: Princeton University Press.

Golob, A., Lugovoy, O. and Potashnikov, V. (2019). Quantifying barriers to decarbonization of the Russian Economy: real option analysis of investment risks in low-carbon technologies. *Climate Policy*. 19 (6): 716-724.

Gunfaus, M.T. and Waisman, H. (2021). Assessing the adequacy of the global response to the Paris Agreement: Toward a full appraisal of climate ambition and action. *Earth System Governance*. 8.

Hall, P.A. (1993). Policy paradigms, social learning, and the state: the case of economic policymaking in Britain. *Comparative Politics*. 25 (3): 275–296.

Hall, P.A. and Taylor, R.C.R. (1996). Political science and the three new institutionalisms. *Political Studies*. 44 (5): 936–957.

Hall, P. (1997). The role of interests, institutions, and ideas in the comparative political economy of the industrialized nation. In: M. L. Lichbach and A. S. Zuckerman. *Comparative Politics: Rationality, Culture, and Structure (*pp. 174–207). Cambridge: Cambridge University Press .

Harrison, K. (2015). International Carbon Trade and Domestic Climate Politics. *Global Environmental Politics*. 15 (3): 27–48.

Hay, C. (2004). Ideas, interests and institutions in the comparative political economy of great transformations. *Review of International Political Economy*. 11(1): 204-226.

Held, D., & Roger, C. (2018). Three Models of Global Climate Governance: From Kyoto to Paris and Beyond. *Global Policy*. 9(4): 527–537.

Heilbroner, R. L. (1985). *The Nature and Logic of Capitalism*. New York : W.W. Norton.

Höhne, N., Kuramochi, T., Warnecke, C., Röser, F., Fekete, H., Hagemann, M. and Gonzales, S. (2017). The Paris agreement: Resolving the inconsistency between global goals and national contributions. *Climate Policy*. 17(1): 16–32.

Huber, R.A., Maltby, T., Szulecki, K. and Ćetković, S. (2021). Is populism a challenge to European energy and climate policy? Empirical evidence across varieties of populism. *Journal of European Public Policy*. 28 (7): 998–1017.

Iacobuta, G., Dubash, N.K., Upadhyaya, P., Deribe, M. and Höhne, N. (2018). National climate change mitigation legislation, strategy and targets: a global update. *Climate Policy*. 18 (9): 1114-1132.

Ide, T. (2020), Recession and fossil fuel dependence undermine climate policy commitments. *Environmental Research Communications.* 2 (10): 101002.

Immergut, E.M. (1998). The Theoretical Core of the New Institutionalism. *Politics and Society.* 26: 5-34.

Inglehart , R., Haerpfer , C., Moreno , A., Welzel , C., Kizilova, K., Diez Medrano, J. and Puranen, B. (2014). World Values Survey: Round six - Country-Pooled Datafile Version. Madrid, Spain: JD Systems Institute.

Ivarsflaten, E. (2008). What unites right-wing populists in Western Europe? Re-examining grievance mobilization models in seven successful cases. *Comparative Political Studies*. 41 (1): 3–23.

Jahn, D. (2021) Quick and dirty: how populist parties in government affect greenhouse gas emissions in EU member states. *Journal of European Public Policy*. 28 (7): 980-997.

Jänicke, M. (2007). Ecological modernisation: New perspectives. In: M. Jänicke, & K. Jacob (Eds.), Environmen*tal governance in global perspective: New approaches to ecological modernisation* (pp. 9–29). Free University of Berlin.

Jakob, M. Steckel, J.C., Klasen, S., Lay, J. Grunewald, N. Martínez-Zarzoso, I., Renner, S. and Edenhofer, O. (2014). Feasible mitigation actions in developing countries. *Nature Climate Change*. 4: 961–968.

Jensen, C.B., and Spoon, J. (2011). Testing the 'Party Matters' Thesis: Explaining Progress Towards Kyoto Protocol Targets. *Political Studies.* 59 (1): 99-115.

Johnson, E., Agone, J. and McCarthy, J. (2010) Movement organizations, synergistic tactics and environmental public policy. *Social Forces*. 88 (5): 2267–92.

Jordan, A. J., Huitema, D., Hildén, M., van Asselt, H., Rayner, T.J. and Schoenefeld, J.J. (2015). Emergence of polycentric climate governance and its future prospects. *Nature Climate Change*. 5 (11): 977–982.

Jost, J.T., Banaji, M.R. and Nosek, B.A. (2004). A decade of system justification theory: accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology.* 25 (6): 881–919.

Kammerer, M. and Namhata, C. (2018). What drives the adoption of climate change mitigation policy? A dynamic network approach to policy diffusion. *Policy Sciences*. 51 (4): 477-513.

Kaufmann, D., Kraay. A. and Mastruzzi, M. (2010). "The Worldwide Governance Indicators: Methodology and Analytical Issues". *World Bank Policy Research Working Paper*, No. 5430.

Keohane, R. and Victor, D. (2011). The Regime Complex for Climate Change. *Perspectives on Politics*. 9: 7–23.

Kern, F. (2011). Ideas, institutions, and interests: explaining policy divergence in fostering 'system innovations' towards sustainability. *Environment and Planning C: Government and Policy*. 29: 1116–1134.

Kim, S.Y. and Wolinsky-Nahmias, Y. (2014). Cross-National Public Opinion on Climate Change: The Effects of Affluence and Vulnerability. Global Environmental Politics. 14 (1): 79-106.

Knill , C., Debus , M. and Heichel, S. (2010). Do parties matter in internationalised policy areas? The impact of political parties on environmental policy outputs in 18 OECD countries. *European Journal of Political Research*. 49 (3): 301–336.

Kreibich, N. (2018). Raising Ambition through Cooperation. Using Article 6 to bolster climate change mitigation. *JIKO Policy Paper, No. 02.* Retrieved from: https://epub.wupperinst.org/_/deliver/index/docId/Raising_Ambition.pdf (last accessed on March 20, 2022).

Lachapelle, E. and Paterson, M. (2013). Drivers of national climate policy. Climate Policy. 13 (5): 547-571.

Lamb, W.F. and Minx, J.C. (2020). The political economy of national climate policy: Architectures of constraint and a typology of countries. *Energy Research and Social Science*. 64: 101429.

Leiserowitz, A. (2007). International public opinion, perception, and understanding of Global Climate Change. *Human Development Report Office Occasional Paper*, UNDP. Retrieved from: https://climatecommunication.yale.edu/wp-content/2009International-Public-Opinion.pdf (last accessed on March 13, 2022).

Lessenki, M. (October 19, 2019). "Taking on climate change: The new east-west divide?" European Council on foreign relations. Retrieved from: https://www.ecfr.eu/article-commentary_taking_on_climate_change_the_new_east_west_divide (last accessed on June 1, 2022).

Levi, S., Flachsland, C. and Jakob, M. (2020). Political Economy Determinants of Carbon Pricing, *Global Environmental Politics*. 20 (2): 128–156.

Liefferink, D., Bas, A. Kamstra, J. and Ooijevaar, J. (2009). Leaders and laggards in environmental policy: A quantitative analysis of domestic policy outputs. Journal of European Public Policy. 16 (5): 677-700.

Liefferink, D. and Wurzel, R.K.W., 2017. Environmental leaders and pioneers: agents of change? *Journal of European Public Policy*. 24 (7): 651–668.

Lockwood, M. (2018). Right-wing populism and the climate change agenda: exploring the linkages. *Environmental Politics*. 27 (4): 712–732.

Madden, N.J. (2014). Green means stop: Veto players and their impact on climate-change policy outputs. *Environmental Politics*. 23 (4): 570-589.

Mello, P.A. (2021) *Qualitative Comparative Analysis: An Introduction to Research Design and Applicatio*n. Washington, DC: Georgetown University Press.

Melidis, M. and Russel, D.J. (2020). Environmental policy implementation during the economic crisis: an analysis of European member state 'leader-laggard' dynamics. *Journal of Environmental Policy & Planning*. 22 (2): 198-210.

Minkenberg, M. (2017). *The radical right in Eastern Europe: Democracy under siege*? Palgrave Macmillan.

Moe, T. M. (2015). Vested Interests and Political Institutions. *Political Science Quarterly*. 130 (2): 277–318.

Mudde, C. (2007). *Populist Radical Right Parties in Europe*. Cambridge, UK: Cambridge University Press.

Neumayer, E. (2003). Are left-wing party strength and corporatism good for the environment? Evidence from panel analysis of air pollution in OECD countries. Ecological Economics. 45: 203-220.

Never, B. and Betz, J. (2014). Comparing the climate policy performance of emerging economies. *World Development*. 59: 1-15.

North D.C. (1990). A transaction cost theory of politics. *Journal of Theoretical Politics*. 2: 355–367.

Notermans, T. (1993). The Abdication of National Policy Autonomy: Why the Macroeconomic Policy Regime Has Become So Unfavourable to Labour. *Politics and Society*. 21 (2): 133–167.

Oberthür, S. and Groen, L. (2018). Explaining goal achievement in international negotiations: the EU and the Paris Agreement on climate change. *Journal of European Public Policy*. 25 (5): 708–727.

Obergassel, W., Arens, C., Hermwille, L., Kreibich, N., Mersmann, F., Ott, H.E. and Wang- Helmreich, H. (2016). *Phoenix from the Ashes — An Analysis of the Paris Agreement to the United Nations Framework Convention on Climate Change*. Wuppertal: Wuppertal Institute for Climate, Environment and Energy.

Oberthür, S. and Dupont, C. (2021). The European Union's international climate leadership: towards a grand climate strategy?, *Journal of European Public Policy*. 28 (7): 1095–1114.

Peters, B.G. (2005). *Institutional Theory in Political Science: The 'New Institutionalism'*. London: Continuum.

Peeters, M.L. (2021). Catalyzing ambition of Nationally Determined Contributions under the Paris Agreement to mitigate climate change. A qualitative comparative study of 32 countries and the European Union. Dissertation, Delf University of Technology.

Perneczky, L., Foster, R., Mrozek, K., Batík, Š. and Petrica, N. (February 24, 2022). EU Taxonomy proposal welcomed by CEE governments, spells trouble for energy transition. CEE Bankwatch Network. Retrieved from: https://bankwatch.org/blog/eu-taxonomy-proposal-welcomed-by-cee-governments-spells-trouble-for-energy-transition (last accessed on June 4, 2022).

Pickstone, S. (January 23, 2022). Coal phase-out: Poland and Bulgaria isolated as Slovenia announces 2033 deadline. Ends Europe. Retrieved from: https://www.endseurope.com/article/1737566/coal-phase-out-poland-bulgaria-isolated-slovenia-announces-2033-deadline (last accessed on June 7, 2022).

Pierson P. (1993). Review: when effect becomes cause: policy feedback and political change. *World Politics*. 45: 595–628.

Poteete, A.R. (2003). Ideas, interests and institutions: challenging the property rights paradigm in Botswana. *Governance*. 16 (4): 527–557.

Purdon, M. (2014). Neoclassical realism and International Climate Change Politics: Moral Imperative and Political Constraint in Climate Finance. *Journal of International Relations and Development.* 17: 301–338.

Purdon, M. (2015). Advancing Comparative Climate Change Politics: Theory and Method. *Global Environmental Politics*. 15 (3): 1–26.

Price R. (2006). Detecting ideas and their effects. In: R.E. Goodin and C .Tilly (Eds), The Oxford Handbook of Contextual Political Analysis (pp. 252–265). Oxford: Oxford University Press.

Rajamani, L. (2016). Ambition and differentiation in the 2015 Paris Agreement: Interpretative possibilities and underlying politics. *International and Comparative Law Quarterly*. 65(02): 493-514.

Ragin, C.C. (1987). *The Comparative Method: Moving beyond Qualitative and Quantitative Strategies*. Berkeley: University of California Press.

Ragin, C.C. (2000). *Fuzzy-Set Social Science*. Chicago: University of Chicago Press.

Ragin, C.C. (2008). *Redesigning social inquiry*. University of Chicago Press, Chicago.

Rihoux, B. and Ragin, C.C. (2009). *Configurational Comparative Methods. Qualitative Comparative Analysis (QCA) and Related Techniques*. Thousand Oaks, London: Sage.

Rooduijn, M., Van Kessel, S., Froio, C., Pirro, A., De Lange, S., Halikiopoulou, D., Lewis, P., Mudde, C. and Taggart, P. (2019). The PopuList: An Overview of Populist, Far Right, Far Left and Eurosceptic Parties in Europe. Retrieved from: www.popu-list.org (last accessed on April 03, 2022).

Savoia, A. and Sen, K. (2015) Measurement, evolution, determinants, and consequences of state capacity: a review of recent research. Journal of Economic Surveys. 29 (3): 441–458.

Schaffer, L.M., Oehl, B. and Bernauer, T. (2021). Are policymakers responsive to public demand in climate politics?. *Journal of Public Policy*. 1-29.

Schaller, S. and Carius, A. (2019). Convenient truths: Mapping climate agendas of right-wing populist parties in Europe. *Adelphi Study*. Retrieved from: https://www.adelphi.de/en/publication/convenient-truths (last accessed on March 7, 2022).

Schmidt, N.M. and Fleig, A. (2018). Global patterns of national climate policies: Analyzing 171 country portfolios on climate policy integration. *Environmental Science & Policy*. 84: 177-185.

Schmidt, V.A. (2001). The politics of economic adjustment in France and Britain: when does discourse matter? *Journal of European Public Policy*. 8 (2): 247–264.

Schneider, C.Q. and Rohlfing, I. (2013). Combining QCA and Process Tracing in Set-Theoretic Multi-Method Research. *Sociological Methods & Research. 42*(4): 559–597.

Schneider C.Q. and Wagemann C. (2012). *Set-theoretic methods for the social sciences: A Guide to Qualitative Comparative Analysis*. Cambridge University Press, Cambridge.

Schwarte, C. (2021). EU Climate Policy under the Paris Agreement. *Climate Law*. 11 (2): 157-175.

Scott, W.R. (2008). *Institutions and Organizations: Ideas and Interests*. London: Sage.

Selk, V. and Kemmerzell, J. (2021). Retrogradism in context. Varieties of right-wing populist climate politics." *Environmental Politics*. 1-22.

Sewerin, S. (2014). *Comparative climate politics: patterns of climate policy performance in western democracies*. Diss. Universität zu Köln.

Shearer, J.C., Abelson, J., Kouyate, B., Lavis, J. N. and Walt, G. (2016). Why do policies change? Institutions, interests, ideas and networks in three cases of policy reform. *Health Policy and Planning*. 31 (9): 1200-1211.

Shum, R. (2009). Can attitudes predict outcomes? Public opinion, democratic institutions and environmental policy. *Environmental Policy and Governance*. 19 (5): 281–95.

Slaughter, A.-M. (December 28, 2015). The Paris Approach to global governance. Project Syndicate. Retrieved from: https://www.project-syndicate.org/commentary/paris-agreement-model-for-global-governance-by-anne-marie-slaughter-2015-12 (last accessed on March 20, 2022).

Sommer, B., Schad, M., Kadelke, P., Humpert, F. and Möstl, C. (2022). *Rechtspopulismus vs. Klimaschutz?* München: oekom verlag.

Spoon, J.J., Hobolt, S.B. and De Vries, C.E. (2014). Going green: explaining issue competition on the environment. European Journal of Political Research, 53 (2): 363–380.

Taylor, K. (November 9, 2021). "Poland clarifies position on coal phase-out, it is still 2049" *Euractiv.* Retrieved from: https://www.euractiv.com/section/energy/news/poland-clarifies-position-on-coal-phase-out-it-is-still-2049/ (accessed on May 16, 2022).

Tobin, P. (2017). Leaders and laggards: Climate policy ambition in developed states. *Global Environmental Politics*. 17 (4): 28-47.

Tosun, J. and Debus, M. (2021). Right-wing populist parties and environmental politics: insights from the Austrian Freedom Party's support for the glyphosate ban. *Environmental Politics.* 30 (1-2): 224-244.

Tørstad, V., Sælen, H. and Bøyum, L.S. (2020). The domestic politics of international climate commitments: which factors explain cross-country variation in NDC ambition?. *Environmental Research Letters.* 15 (2): 024021.

UNFCCC (2021). Paris Agreement - Status of Ratification. Retrieved from: https://unfccc.int/process/the-paris-agreement/status- of-ratification (last accessed on March 20, 2022).

van Coppenolle, H. (2020). *Climate Ambition and its determinants*. Diss. Ghent University, Faculty of political and social sciences.

Vandeweerdt C., Kerremans, B. and Cohn, A. (2016). Climate voting in the US congress: the power of public concern. *Environmental Politics*. 25 (2): 268–288.

Victor, D. (2011). *Global Warming Gridlock*. Cambridge: Cambridge University Press.

Vidal, J. (2010). Copenhagen climate failure blamed on 'Danish text'. The Guardian [online]. 31 May 2010. www.theguardian.com/environment/2010/may/31/climate-change-copenhagen-danish-text.

Vihma, A., et al. (2020). Climate change and populism. comparing the populist parties' climate policies in Denmark, Finland and Sweden. FIIA Report No. 64. Retrieved from: https://www.fiia.fi/en/publication/climate-change-and-populism (last accessed on March 7, 2022).

Volden, C. (2006). States as policy laboratories: emulating success in the children's health insurance program. *American Journal for Political Science*. 50 (2): 294–312.

von Homeyer, I., Oberthür, S. and Jordan, A. (2021). EU climate and energy governance in times of crisis: Towards a new agenda. *Journal of European Public Policy*. 28 (7): 959-979.

Wagemann, C.Q., and Siewert, M.B. (2018). Qualitative Comparative Analysis. In Wagemann, C., Goerres, A., & Siewert, M. (Eds.): *Handbuch Methoden der Politikwissenschaft* (pp. 1- 33). Wiesbaden: Springer.

Schneider C.Q. and Wagemann C. (2007). Standards of good practice in Qualitative Comparative Analysis (QCA) and Fuzzy-Sets. Retrieved from:

www.compasss.org/wpseries/ WagemannSchneider2007.pdf (accessed on 20 March 2022).

Walt , G., Shiffman, J., Schneider , H., Murray , S. F., Brugha , R. and Gilson , L. (2008). Doing health policy analysis: methodological and conceptual reflections and challender. *Health Policy Planning*. 23 (5): 308–317.

Weaver, A. (2008). Does protest behavior mediate the effects of public opinion on national environmental policies? A simple question and a complex answer. *International Journal of Sociology*. 38 (3): 108–25.

Wendling, Z.A., Emerson, J.W., de Sherbinin, A., Esty, D.C., et al. (2020). 2020 Environmental Performance Index. New Haven, CT: Yale Center for Environmental Law & Policy.

Wiseman, J., Edwards, T. and Luckins, K. (2013). Post carbon pathways: a meta-analysis of 18 large-scale post carbon economy transition strategies. *Environmental Innovation and Societal Transitions*. 8: 76–93.

World Bank (2019). World Bank national accounts data, GDP per capita (current US$). Retrieved from: https://data.worldbank.org/indicator/GDPpercapita (accessed 31 July 2021).

World Bank (2021). Worldwide Governance Indicators – Full Dataset. Retrieved from: http://info.worldbank.org/governance/wgi/ (accessed on 10 April 2022).

World Nuclear Association (2021). Nuclear Power in Hungary. Retrieved from: https://www.world-nuclear.org/information-library/country-profiles/countries-g-n/hungary.aspx (accessed on May 19, 2022).

Wurzel, R.K.W. (2021). The Council, European Council and member states. In: Jordan, A. and V. Gravey. *Environmental Policy in the EU*: *Actors, Institutions and Processes* (pp. 93-111). London: Taylor & Francis Group.

Żuk, P. and Szulecki, K. (2020). Unpacking the right-populist threat to climate action: Poland's pro-governmental media on energy transition and climate change. *Energy research & social science. 66:* 101485.

APPENDICES: SUPPLEMENTARY TABLES AND ROBUSTNESS TEST

APPENDIX A: SUPPLEMENTARY TABLES FOR ANALYSIS

A1. Case Sample including 25 EU Member States.

Country		
Austria	France	Poland
Belgium	Germany	Portugal
Bulgaria	Greece	Romania
Croatia	Hungary	Slovak Republic
Cyprus	Ireland	Slovenia
Czech Republic	Italy	Spain
Denmark	Latvia	Sweden
Estonia	Lithuania	
Finland	Netherlands	

A2. Overview: Data Sources, Calibration of Anchors for Conditions and Outcome.

Conditions	Acronyms	Indicators	Sources	Anchors
RWPP in Government	**POPULIST**	Share of populist, far-right votes	The PopuList	upper: 0.9 cross-over: 0.5 lower: 0.1
Government Effectiveness	**GOVERN**	WGI	World Bank	upper: 0.6 cross-over: 1.1 lower: 1.4
Reliance on Non-Renewables	**NORENEW**	Electricity Production (in %)	EMBER Institute	upper: 0.7 cross-over: 0.7 lower: 0.3
Economic Prosperity	**PROSPER**	GDP per Capita (US Dollars)	World Bank	upper: 44378.34 cross-over: 23608.81 lower: 16964.42
Saliency	**SALIENCY**	Survey	Eurobarometer	upper: 11 cross-over: 20 lower: 30
Outcome				
Insufficient Climate Policy Ambitions	**INSUF**	Climate Change Performance Index	German Watch	upper: 56.0 cross-over: 49.0 lower: 40.0
Condition for Robustness				
Economic Prosperity 2	**PROSPER2**	GNI per Capita (US Dollars)	World Bank	upper: 29258.2 cross-over: 36658.2 lower: 51707.4

A3. Raw Data Before Calibration.

Country	Climate Change Performance Index	Non-Renewable Energy Sources in Electricity Production	RWPP in Gov.	Government Effectiveness	GDP per Capita	Public Perception on climate change
Austria	47,5671737	0,206	0,25	1,53	47667,7893	24
Belgium	46,9512657	0,806	0,25	1,15	44206,8806	21
Bulgaria	40,5409883	0,784	0,75	0,26	8442,69934	6,5
Croatia	54,952711	0,234	0,25	0,46	13540,9855	3,5
Cyprus	38,7537161	0,935	0	0,99	26367,253	6,5
Czech Republic	41,4893365	0,862	0,25	0,96	20790,2529	14
Denmark	67,05758	0,331	0,25	1,91	57468,1164	51,5
Estonia	44,0826566	0,709	0,75	1,17	20623,4826	14
Finland	58,0479075	0,507	0,25	2,01	46318,2674	32
France	57,7811204	0,767	0,25	1,37	38853,4662	23
Germany	58,7603382	0,561	0,25	1,53	44378,3391	35
Greece	50,4047173	0,577	0,25	0,35	18688,2023	2
Hungary	40,4166193	0,86	1	0,5	14712,3673	10
Ireland	43,2835706	0,516	0	1,29	71094,1953	29
Italy	49,8146029	0,548	0,25	0,48	32334,4155	9,5
Latvia	57,5017334	0,35	0	1,1	15876,8461	3
Lithuania	55,2466881	0,437	0	1,04	16964,4155	4
Nether-lands	54,2453879	0,739	0,25	1,8	49010,3491	58,5
Poland	39,5969129	0,852	1	0,53	14010,7734	12
Portugal	58,259702	0,312	0,25	1,17	21498,7381	6,5
Romania	53,4413561	0,509	0	-0,16	10922,7074	10,5
Slovak Republic	49,0303413	0,767	0,75	0,59	17797,2802	12
Slovenia	38,6535959	0,597	1	1,08	23608,8076	8,5
Spain	47,0082467	0,456	0,25	1	28055,4428	9
Sweden	72,2616962	0,323	0,25	1,71	52715,6121	40,5

A4. Raw Data After Calibration.

Country	INSUF	NORE NEW	POPU LIST	PROSPER	GOVERN	SALIENT
Austria	0.57960146	0.0000	0.1875	1.00000000	0.0000000	0.3000000
Belgium	0.61381857	1.0000	0.1875	0.99587233	0.4166667	0.4500000
Bulgaria	0.96994509	1.0000	0.1875	0.00000000	1.0000000	1.0000000
Croatia	0.07480635	0.0000	1.0000	0.00000000	1.0000000	1.0000000
Cyprus	1.00000000	1.0000	0.0000	0.56640600	0.6100000	1.0000000
Czech Republic	0.91725908	1.0000	0.1875	0.28789948	0.6400000	0.8333333
Denmark	0.00000000	0.0775	0.0000	1.00000000	0.0000000	0.0000000
Estonia	0.77318574	1.0000	0.0000	0.27534977	0.3833333	0.8333333
Finland	0.00000000	0.5175	0.1875	1.00000000	0.0000000	0.0000000
France	0.00000000	1.0000	1.0000	0.86699570	0.0500000	0.3500000
Germany	0.00000000	0.6525	0.1875	1.00000000	0.0000000	0.0000000
Greece	0.39966305	0.6925	0.0000	0.12971712	1.0000000	1.0000000
Hungary	0.97685448	1.0000	0.8125	0.00000000	1.0000000	1.0000000
Ireland	0.81757941	0.5400	1.0000	1.00000000	0.1833333	0.0500000
Italy	0.44181408	0.6200	0.1875	0.71005785	1.0000000	1.0000000
Latvia	0.00000000	0.1250	0.1875	0.00000000	0.5000000	1.0000000
Lith-uania	0.05380799	0.3425	0.1875	0.00000000	0.5600000	1.0000000
Nether-lands	0.12532944	1.0000	0.1875	1.00000000	0.0000000	0.0000000
Poland	1.00000000	1.0000	1.0000	0.00000000	1.0000000	0.9444444
Portugal	0.00000000	0.0300	0.0000	0.34121403	0.3833333	1.0000000
Romania	0.18276028	0.5225	0.1875	0.00000000	1.0000000	1.0000000
Slovak Republic	0.49783276	1.0000	0.0000	0.06267394	1.0000000	0.9444444
Slovenia	1.00000000	0.7425	0.0000	0.49999982	0.5200000	1.0000000
Spain	0.61065296	0.3900	0.1875	0.60704702	0.6000000	1.0000000
Sweden	0.00000000	0.0575	1.0000	1.00000000	0.0000000	0.0000000

A5. Necessity Analysis of Single Conditions for the Negative Outcome.

	Consistency	Coverage	RoN
POPULIST	0.236	0.410	0.781
GOVERN	0.445	0.484	0.647
NORENEW	0.514	0.469	0.544
PROSPER	0.610	0.690	0.768
SALIENT	0.586	0.490	0.493
populist	0.880	0.725	0.634
govern	0.649	0.746	0.806
norenew	0.593	0.854	0.916
prosper	0.475	0.524	0.672
salient	0.488	0.822	0.919

A6. Truth Table for the Negative Outcome.

row number	NORENEW	POPULIST	PROSPER	GOVERN	SALIENT	OUT	n	Incl.	PRI	cases
4	0	0	0	1	1	1	2	0.999	0.999	Croatia, Lithuania
2	0	0	0	0	1	1	1	0.998	0.998	Portugal
8	0	0	1	1	1	1	1	0.860	0.618	Spain
21	1	0	1	0	0	1	6	0.856	0.814	Belgium, Finland, France, Germany, Ireland, Netherlands
5	0	0	1	0	0	1	3	0.846	0.815	Austria, Denmark, Sweden
20	1	0	0	1	1	0	3	0.696	0.455	Czech Republic, Greece, Romania
24	1	0	1	1	1	0	2	0.690	0.185	Cyprus, Italy
26	1	1	0	0	1	0	1	0.405	0.143	Estonia
28	1	1	0	1	1	0	5	0.286	0.002	Bulgaria, Hungary, Poland, Slovak Republic, Slovenia

Note: frequency = 1; consistency = 0.75; sort.by = c("incl."), complete=F; show.cases = TRUE

A7. Conservative Solution of the Negated Outcome.

	Solution Component	Con.	PRI	Cov.	U.Cov	Cases
1	NORENEW*POPULIST *prosper*SALIENT	0.912	0.883	0.472	0.386	Estonia, Bulgaria, Hungary, Poland, Slovak Republic, Slovenia
2	Populist*PROSPER* GOVERN*SALIENT	0.806	0.606	0.249	0.163	Spain, Cyprus, Italy
	M1	0.866	0.813	0.635		

Note: Frequency and consistency threshold are the same as in the truth table, 1 and 0.75 respectively.

M1:

NORENEW*POPULIST*prosper*SALIENT +
Populist*PROSPER*GOVERN*SALIENT ⟶ insuf

A8. Intermediate Solution of the Positive Outcome.

	Solution Components	Con.	PRI	Cov.	U.Cov	Cases
1	NORENEW*POPULIST * SALIENT	0.905	0.873	0.515	0.360	Estonia, Bulgaria, Hungary, Poland, Slovak Republic, Slovenia
2	PROSPER*GOVERN* SALIENT	0.835	0.703	0.302	0.036	Spain, Cyprus, Italy
	M1	0.861	0.809	0.699		

Note: Consistency = 0.8; include = "?"; details = T; row dominance = F.

From C1P1, C1P2	M1.	NORENEW*POPULIST*SALIENT + PROSPER*GOVERN*SALIENT	⟶	INSUF

A9. Intermediate Solution of the Negative Outcome.

	Solution Components	Con.	PRI	Cov.	U.Cov	Cases
1	norenew*populist	0.897	0.866	0.556	0.337	Austria, Croatia, Denmark, Lithuania, Portugal, Spain, Sweden
2	populist*govern*salient	0.837	0.798	0.426	0.207	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Sweden
1	norenew*populist	0.897	0.866	0.556	0.337	Austria, Croatia, Denmark, Lithuania, Portugal, Spain, Sweden
3	populist*PROSPER* govern*salient	0.837	0.798	0.426	0.207	Austria, Belgium, Denmark. Finland, France, Germany, Ireland, Netherlands, Sweden
	M1	0.877	0.841	0.764		
	M1	0.877	0.841	0.764		

Note: Consistency = 0.75; include = "?"; details = T; row dominance = F.

From C1P1, C1P2:	M1.	norenew*populist + populist*govern*salient	⟶ improv
From C1P3:	M1.	norenew*populist + populist*PROSPER* govern*salient	⟶ improv

APPENDIX B: ROBUSTNESS CHECK

The results of a QCA-analysis should be backed by a certain type of robustness test, meaning by performing a complementary analysis. It resonates with the intention to control if the condition set is chosen well and if modifications severely affect my results. In the following, this is done the proxy used to measure economic prosperity (PROSPER) is replaced by an alternative indicator. Ideally, this should come to the same results.

PROSPER2. Economic prosperity – previously measured by a member states' GDP per capita – is exchanged by the Gross National Income (GNI), sourced from the UN statistics database. In contrast to the GDP, it excludes primary incomes payable to non-resident units and includes those receivable from non-resident units. As with GDP per capita, the five-year average of a country's GNI per capita serves as a base variable to calibrate this condition and the calculated quartiles serve for the assignment of membership (full membership: 51707.4; crossover-point: 36658.2; full non-membership: 29258.2).

A10. Raw Data Before and After Calibration (New Conditions).

EU Member State	GNI per Capita	PROSPER2	EU Member State	GNI per Capita	PROSPER2
Austria	54852.0	1.00000000	Ireland	62524.0	1.00000000
Belgium	51707.4	1.00000000	Italy	42095.2	0.68064083
Bulgaria	21287.6	0.00000000	Latvia	28616.4	0.00000000
Croatia	26640.8	0.00000000	Lithuania	32860.2	0.24337838
Cyprus	36826.6	0.50559498	Netherlands	55653.8	1.00000000
Czechia	36658.2	0.50000000	Poland	29258.2	0.00000000
Denmark	57138.0	1.00000000	Portugal	32663.2	0.23006757
Estonia	33566.2	0.29108108	Romania	26979.8	0.00000000
Finland	48021.6	0.87754166	Slovak	29943.6	0.04631081
France	46346.6	0.82189086	Republic		
Germany	54418.0	1.00000000	Slovenia	36097.6	0.46212162
Greece	28795.6	0.00000000	Spain	39468.6	0.59337373
Hungary	29104.2	0.00000000	Sweden	53260.0	1.00000000

Necessity Analysis

The robustness test for single necessary conditions with PROSPER2 as new condition coincides with the previous results: No single condition exists that can be regarded as a necessary relevant condition for the positive nor the negative outcome.

A11. Single Necessity of New Condition.

		Consistency	Coverage	RoN
Positive Outcome	PROSPER2	0.456	0.411	0.638
	prosper2	0.645	0. 559	0.685
Negative Outcome	PROSPER2	0.597	0.681	0.765
	prosper2	0.483	0.529	0.671

Similarly, the comparison of necessary combinations of conditions for the positive outcome and the negated outcome with the new condition yields the same results, although slightly lower values (A12 and A13).

A12. Necessity Analysis of Combinations for the Positive Outcome (New Condition).

		Consistency	Coverage	RoN
1	NORENEW+POPULIST	0.919	0.621	0.583
2	NORENEW+PROSPER2	0.968	0.539	0.363
3	NORENEW+govern	0.951	0.516	0.320
4	NORENEW+salient	0.950	0.548	0.405

Note: incl.cut=0.9; cov.cut=0.5

A13. Necessity Analysis of Combinations for the Negated Outcome (New Condition).

		Consistency	Coverage	RoN
1	renew+populist	0.916	0.712	0.576
3	populist+PROSPER2	0.933	0.697	0.526
4	populist+govern	0.951	0.695	0.503
5	populist+salient	0.938	0.731	0.594

Note: incl.cut=0.9; cov.cut=0.65

Sufficiency Analysis

The assessment of sufficiency relations starts with regenerating the truth tables for both outcomes (see A14–15). Settings are kept as in the original code. For both tables, several modifications are visible with respect to the calculated values in those configurations that entail the replaced condition PROSPER2. However, while these changed the order of row 26 and 24 for the positive outcome, there a neither deviations with respect to the combination of conditions leading to a certain outcome nor regarding the EU member states that have been found to share a certain path.

A14. Truth Table for the Positive Outcome (New Condition).

row number	NORENEW	POPULIST	PROSPER2	GOVERN	SALIENT	OUT	n	Incl.	PRI	cases
28	1	1	0	1	1	1	5	0.921	0.892	Bulgaria, Hungary, Poland, Slovak Republic, Slovenia
26	1	1	0	0	1	1	1	*0.876*	*0.824*	Estonia
24	1	0	1	1	1	1	2	*0.853*	*0.681*	Cyprus, Italy
20	1	0	0	1	1	0	3	*0.720*	*0.487*	Czech Republic, Greece, Romania
8	0	0	1	1	1	0	1	*0.720*	*0.327*	Spain
21	1	0	1	0	0	0	6	0.370	0.186	Belgium, Finland, France, Germany, Ireland, Netherlands
4	0	0	0	1	1	0	2	*0.357*	*0.007*	Croatia, Lithuania
5	0	0	1	0	0	0	3	0.288	0.145	Austria, Denmark, Sweden
2	0	0	0	0	1	0	1	*0.232*	*0.007*	Portugal

Note: frequency = 1; consistency = 0.8; sort.by = c("incl."), complete=F; show.cases = TRUE

A15. Truth Table for the Negated Outcome (New Condition).

row number	NORENEW	POPULIST	PROSPER2	GOVERN	SALIENT	OUT	n	Incl.	PRI	cases
4	0	0	0	1	1	1	2	*0.995*	*0.993*	Croatia, Lithuania
2	0	0	0	0	1	1	1	*0.995*	*0.993*	Portugal
8	0	0	1	1	1	1	1	*0.864*	*0.673*	Spain
21	1	0	1	0	0	1	6	0.856	0.814	Belgium, Finland, France, Germany, Ireland, Netherlands
5	0	0	1	0	0	1	3	0.846	0.815	Austria, Denmark, Sweden
20	1	0	0	1	1	0	3	*0.712*	*0.471*	Czech Republic, Greece, Romania
24	1	0	1	1	1	0	2	*0.666*	*0.275*	Cyprus, Italy
26	1	1	0	0	1	0	1	*0.420*	*0.176*	Estonia
28	1	1	0	1	1	0	5	*0.284*	*0.022*	Bulgaria, Hungary, Poland, Slovak Republic, Slovenia

Note: frequency = 1; consistency = 0.75; sort.by = c("incl."), complete=F; show.cases = TRUE

This already suggests that the results yielded by the minimisation process will be very similar to the original ones. In order to check whether this proves to be true, I reproduce the parsimonious solution the findings for both outcomes (A16 and A17).

A16. Parsimonious Solution of the Positive Outcome.

M1. POPULIST + (PROSPER*GOVERN) ⟶ INSUF

M2. POPULIST + (PROSPER*SALIENT) ⟶ INSUF

	Solution Components	Con.	PRI	Cov.	U.Cov	Cases
1	POPULIST	0.792	0.723	0.579	0.406	Estonia, Bulgaria, Hungary, Poland, Slovak Republic, Slovenia
2	PROSPER*GOVERN	0.840	0.703	0.314	0.012	Spain, Cyprus, Italy
3	PROSPER*SALIENT	0.793	0.625	0.333	0.014	Spain, Cyprus, Italy
	M1	0.795	0.716	0.737		
	M2	0.783	0.702	0.739		

Note: Consistency= 0.8; include = "?"; details = T; row dominance = F.

A17. Parsimonious Solution of the Negated Outcome.

M1. norenew + (salient) ⟶ insuf

M2. norenew + (populist*govern) ⟶ insuf

M3. norenew + (PROSPER*govern) ⟶ insuf

	Components	Con.	PRI	Cov.	U.Cov	Cases
1	norenew	0.854	0.817	0.593	0.217	Austria, Croatia, Denmark, Portugal, Spain, Sweden
2	salient	0.822	0.785	0.488	0.004	Austria, Belgium, Finland, France, Germany, Ireland, Netherlands
3	populist*govern	0.810	0.767	0.559	0.006	Austria, Belgium, France, Denmark, Finland, Germany, Ireland, Sweden, Netherlands, Portugal,
4	PROSPER*govern	*0.738*	*0.682*	*0.554*	*0.003*	Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Netherlands, Sweden
	M1	0.835	0.794	0.845		
	M2	0.812	0.765	0.813		
	M3	0.797	0.749	0.849		

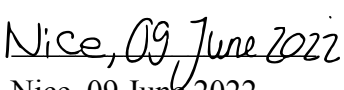
Note: Consistency= 0.8; include = "?"; details = T; row dominance = F.

The results of the parsimonious solution also display the same patterns for underperformance and its negation, except for minimal changes in values. This provides evidence that despite the replacement of one variable by another, the results of the investigation remain unchanged and robust.

PLAGIARISM STATEMENT

I hereby declare that I have composed the present thesis autonomously and without use of any other than the cited sources or means. I have indicated parts that were taken out of published or unpublished work correctly and in a verifiable manner through a quotation. I further assure that I have not presented this thesis to any other institute or university for evaluation and that it has not been published before.

Kim Schumann



Nice, 09 June 2022